AIR QUALITY PLANNING SECTION
DIVISION OF AIR POLLUTION CONTROL
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

AN ASSESSMENT OF LEAD AIR QUALITY IN THE VICINITY OF CHEMETCO, INC. IN HARTFORT, ILLINOIS

AQPSTR 93-1

OCTOBER, 1993

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
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I. History and Background

A. History

Chemetco, Inc. is located in Madison County on Illinois Route 3 some 2.6 kilometers south of Hartford, Illinois. It is in a rural location surrounded by farms and wooded areas. The Chemetco facility is a secondary copper smelter which started operation in 1970. The facility produces a refined copper from copper bearing scrap and other materials which also contain significant amounts of lead in various percentages. The largest emission sources are the smelting and refining operations, materials/slag handling operations, and traffic areas.

Chemetco entered into a Consent Decree on June 30, 1988 which required, along with the installation of fugitive control on the smelting and refining furnaces, the institution of an air monitoring program to determine ambient lead and TSP concentrations at three sites located around the facility. On June 17, 1992, the Consent Order was amended to require the continuation of the air monitoring program until it showed compliance with the applicable air quality standards for a period of at least three consecutive years.

The purpose of this modeling study is assess the effect of new and enhanced emission control programs included in a revised decree entered into by Chemetco in October, 1993. Parts of these programs take effect immediately and others will be systematically employed over a 24 month period. This modeling study is based upon 1996 emissions, the point at which all of the emission control programs will be fully implemented.

B. Air Monitoring Network

Chemetco performed an air quality modeling study to determine the optimum locations for three monitoring sites. The sites were to be established in areas of the highest expected concentrations of lead at or beyond the facility fenceline. Correspondingly, the three sites were finalized and approved by the Agency as follows:

Site 1-N. This site is positioned at the northwest corner of the plant boundary.

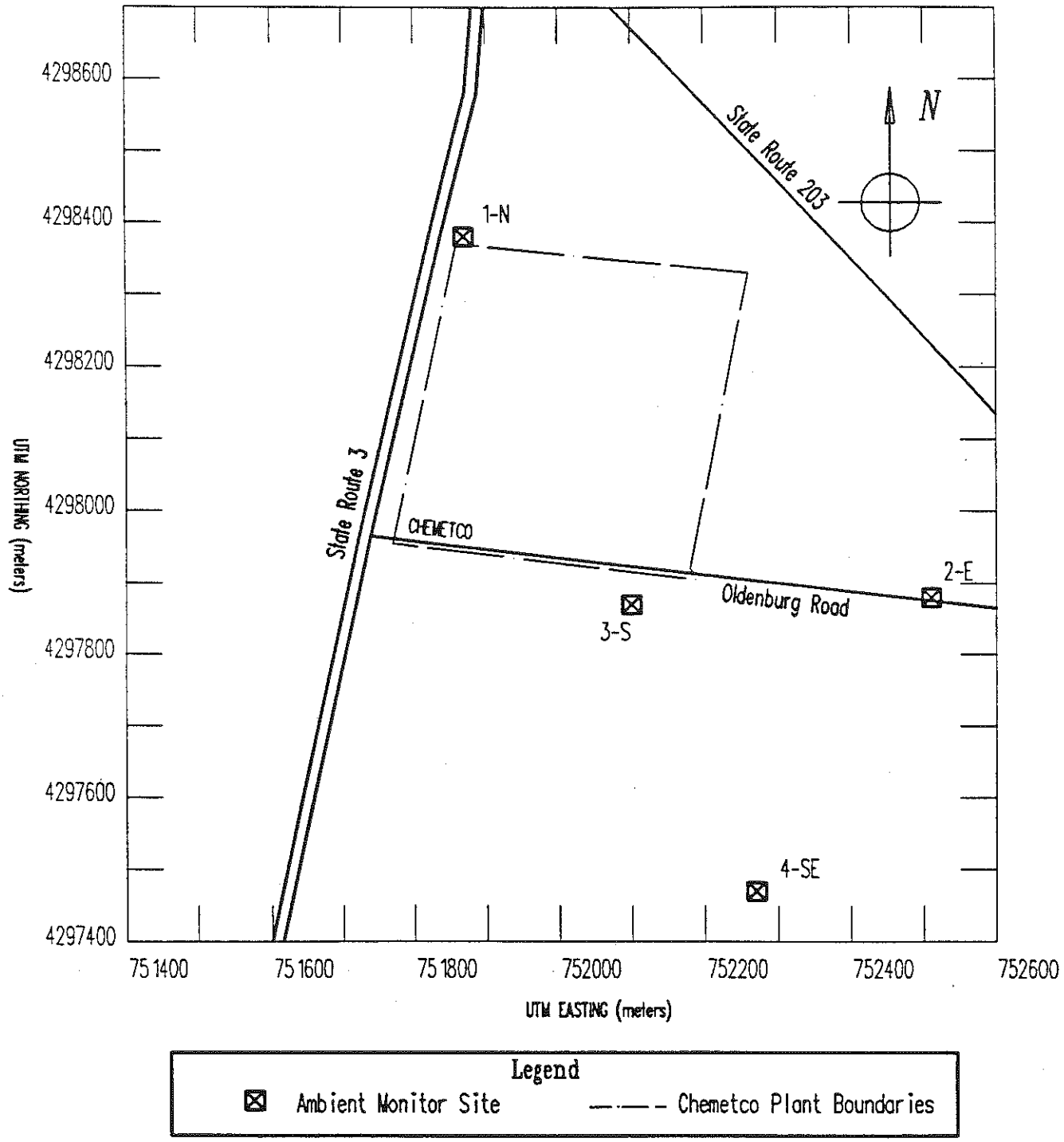
Site 2-E. This site is positioned 279 meters east from the southeast corner of the plant's fenceline.

Site 3-S. This site was positioned 89 meters southwest from the southeast corner of plant's fenceline and 36 meters south of Oldenburg Road.

The location of the monitoring sites relative to the Chemetco facility are shown in Figure A. Because of a change in operations and the closing of Oldenburg Road to the public, Site 3-S was relocated during the summer of 1992 to Site 4-SE.

Figure A

CHEMETCO LEAD STUDY
MONITOR LOCATIONS



Site 4-SE. This site is located at the southern most point of the facility's property, approximately 500 meters south of the southeast corner of the fenceline.

C. Air Quality Data

Ambient air monitoring commenced in April, 1991. The results are summarized by calendar quarter in the following table:

	1991			1992				1993	
Site	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd
1-N	5.56	+	+	1.32	+	1.11	1.23	0.64	5.39
2-E	0.84	0.71	1.44	1.23	1.35	0.79	1.17	1.44	1.07
3-S	1.08	+	4.40	11.77	6.92	+			
4-SE							0.30	0.48	0.29

where + indicates insufficient samples for valid average.

The monitoring results showed several violations of the lead quarterly air quality standard of 1.5 ug/m^3. The 1-N site recorded two exceedances at 5.56 and 5.39 ug/m^3. The 3-S site measured three exceedances with values of 4.40, 11.77 and 6.92 ug/m^3. A number of quarters had insufficient samples (less than 12) to calculate valid averages. Some of these quarters with missing results may have also exceeded the air quality standard should more valid sampling days been obtained.

II.1993 Consent Decree

As a result of the violations of the lead air quality standard that occurred in 1992 and 1993, Chemetco has agreed to provide a number of mitigation measures designed to greatly reduce both process and fugitive emissions. These measures include:

1. Replace scrubbers.
   Each of the four scrubbers that control emissions from the four process furnaces will be replaced by a high efficiency baghouse.

2. Fugitive dust plan.
   An Agency approved fugitive dust plan will be implemented to control both fugitive process emissions, as well as, emissions from storage and slag piles; roadways, parking lots and materials transfers. This plan is designed to achieve an overall control efficiency of 95%.

Additionally, Chemetco will enhance its air monitoring program to collect make-up samples when ambient air samples are missed or when instrument malfunctions occur. This program will ensure that an adequate number of samples are collected at each site in each quarter.

These agreements are to be stipulated in a revised consent decree and entered in court as an enforceable instrument.

III. Source Inventory

A. Preparation

The preparation of the lead emissions inventory for the Chemetco facility is an important step in the IEPA's attainment demonstration for the lead emissions consent decree. A complete inventory was necessary for assessing the air quality, identifying the highest volume emitting units, understanding proposed or potential controls, and defining the control levels required to achieve ambient air quality standards. The development of this inventory includes review of the existing lead inventory (Baseline), verification of the emission unit parameters, application of appropriate lead emission factors and test results, quality assurance of the inventory, and a series of inventory reviews with Chemetco. Earlier meetings with Chemetco had identified stack test needs, stack test observations, fugitive source inspections, additional data collection needs, and USEPA inventory guidance procedures. The proper development of fugitive emissions for paved and unpaved roadways, parking lots, material handling, receiving, stockpiles and process sources required sizable data collection efforts.

To evaluate the emission reductions resulting from new and improved emission controls, two emission inventories were developed. The first being the current or baseline inventory and the second being the future or projected inventory which reflects the implementation of all control measures required by the 1993 Consent Decree. Since the Consent Decree requires that all control measures must be implemented by 1996, the future year inventory can be considered to represent 1996 and later years.

B. Current Verse Future Inventories

According to the current, or baseline inventory, the Chemetco facility emits approximately 39 tons per year of lead for point and fugitive sources. The information used to compile this inventory was supplied by Chemetco and retained by the Agency in permit files, stack test reports, field inspection reports, and the EIS inventory database. Fugitive emissions were extracted from Chemetco's most current fugitive dust plan titled, "Open Source Fugitive Emission Dust Control Plan" dated September, 1993 (Attachment A). The four (4) Kaldo furnaces and the fugitive emissions account for over 95% of the facilities lead emissions. Since the Kaldo furnaces are unique to the secondary copper smelting industry, stack testing was required to define the amount of lead emitted. Each furnace's emissions are currently controlled by a quencher (direct water sprays) followed by a Venturi scrubber. The present collection system has an average efficiency of about 89%. The Consent Decree requires that the existing scrubbers be replaced by high efficiency baghouses which will improve the collection efficiency to more than 99%. Lead emissions

for Slag Treatment/Smelting are expected to decline from 3 1/3 pound per hour to less than 1/3 pound per hour with these baghouses. The attached 1996 Projected Lead Inventory Summary and the 1996 Inventory Development document (Attachment B) review each individual emission unit and the calculation used to determine the emission rate. The proposed 1996 inventory lists both point source and fugitive emission units.

Fugitive emissions are explained in Chemetco's fugitive dust plan and the Inventory Development document (Attachment B). Several baseline emissions contain a partial control level since Chemetco had already purchased a roadway sweeper and a water spray truck. Some process fugitives were previously receiving water spray treatment. The new fugitive control plan increases the treatment frequency, control level and in some cases, changes the type of control. Most baseline control levels (1992-93 base years) were only about 50% control. The scrap yard and Kress haul road are two examples of this type change. Watering schedules will be increased to allow flooding the areas about every two hours. Low traffic on the Kress haul road only requires once per day water applications for 90% control. The flooding procedure reduces the Kress haul road emissions to only 0.0001 pounds per hour. Similarly the scrap yard emissions show an additional 30 to 40% decline. All unpaved roadways will receive a weekly treatment of Coherex dust suppressant, which will provide a control efficiency of 95%. Paved roadways will be controlled by sweeping and flushing. A treatment frequency was determined to maintain a 92% control level. Other control procedures are individually discussed in the attachments.

In conclusion, a lead emission reduction of over 36 tons per year is anticipated by 1996. Although this number is large for lead emissions, it is only part of the total reduction. Partial fugitive controls instituted in the 1992-93 base year reflect an earlier 50% reduction. The baghouse additions to the furnaces allow the largest single reduction. These best possible furnace controls allow a 29 ton per year or higher lead reduction. All the proposed controls, when fully implemented, will reduce the total facility lead emissions by over 90%.

A. METHODOLOGY

1. Model Selection

The ambient air quality impact assessments were performed through the use of the USEPA-approved air quality model, the Industrial Source Complex Long Term model (ISCLT). The ISCLT model was chosen primarily because it can: handle multiple emission sources; incorporate meteorological data by calendar quarters as required to address the ambient air quality standard for lead; account for downwash; and enable the use of both gridded and discrete receptors. The ISCLT model, which can be used in areas with flat to moderately complex terrain, is appropriate for this study since relatively flat terrain dominates the area. The latest version known as ISCLT2 was used in the study with a dated release of 92273.

2. Meteorological Data

In this study meteorological data collected by the National Weather Service at Lambert Airport in St. Louis for the years 1983 through 1987 were used. Upper air data (mixing heights) were obtained from observations taken at Salem, Illinois, the closest National Weather Service station performing such measurements. These data are considered to be representative of conditions expected to occur in the study area since Lambert Airport is only 15 miles from the Chemetco plant site and there are no intervening terrain features in the area capable of significantly affecting the air flow.

3. Emissions Allocation

The emissions data for the Chemetco facility was incorporated in the modeling through the use of point, volume, and area sources. Sources emitting through stacks were assigned as point sources. Building parameters were used for all point sources since the stacks for these sources are less than Good Engineering Practice (GEP) stack height and are therefore influenced by building downwash. The foundry building was considered to have the greatest effect on downwash for all point sources at the facility so the building dimensions used in the model are based on the dimensions of this structure. The roof monitor located atop the foundry building was simulated as elevated volume sources as was the baghouse located south of the foundry. All roads were simulated as line sources using the volume source methodology. Ill-defined roadways such as the Scrap Yard Traffic area and parking lots were modeled as area sources. All other fugitive sources, including all stockpiles, were also modeled as area sources.

4. Receptor Grid

The ISCLT model computes pollutant concentrations at specified locations. These locations, or receptors, are defined by a system of coordinates based on distance, measured in meters. The Universal Transverse Mercator (UTM) grid system was used in the study because it is a metric system, and because UTM coordinates are readily available on topographic maps published by the U.S. Geological Survey. Several iterations of model simulations were performed, using successively finer receptor grid resolution, to ensure that the geographical extent of pollutant impacts, and the locations of peak impacts were adequately defined. A course grid with receptors spaced at one kilometer intervals and extending five kilometers in all directions from the plant, was used to determine the overall extent of lead concentrations in the study area. Closer to the plant, a finer receptor grid with receptors spaced 100 meters apart was used to locate areas of higher concentrations. Receptors were not located within plant boundaries since the public is precluded access to this area.

5. Urban/Rural Determination

The Chemetco facility is located in western Madison County, approximately two miles south of the city of Hartford, and one mile east of the Mississippi River. The terrain around the plant and in the entire study area is very flat never varying in relief by more than six meters. It is a rural area with few structures outside the plant property lines. Therefore, the rural dispersion option was used in the model and all receptors were considered to reside on flat terrain.

6. Background Lead Concentration

The monitoring site in Wood River, Illinois, is the next closest lead monitoring station to those operated at Chemetco. The lowest calendar average recorded at Wood River during 1991 and 1992 was 0.05 ug/m^3. This value would represent a best estimate of background concentration of lead for the area.

7. Other Modeling Options

All model options contained in ISCLT2 which affect the computation of pollutant concentrations were set to their regulatory default values. This includes the use of stack-tip downwash, buoyancy-induced dispersion, default wind speed profile exponents, and default vertical potential temperature gradients. Also, gradual plume rise was not used except for building downwash. The only non-regulatory default option exercised in the modeling was the use of the "lower bound" wake effect option. This option is recommended by USEPA for sources affected by nearby "super-squat" buildings (e.g., buildings that are much wider than they are tall). The foundry building was determined to have a width more than five times its height. Therefore, with the foundry building being the predominant structure affecting downwash for all point sources, the "lower bound" option was used.

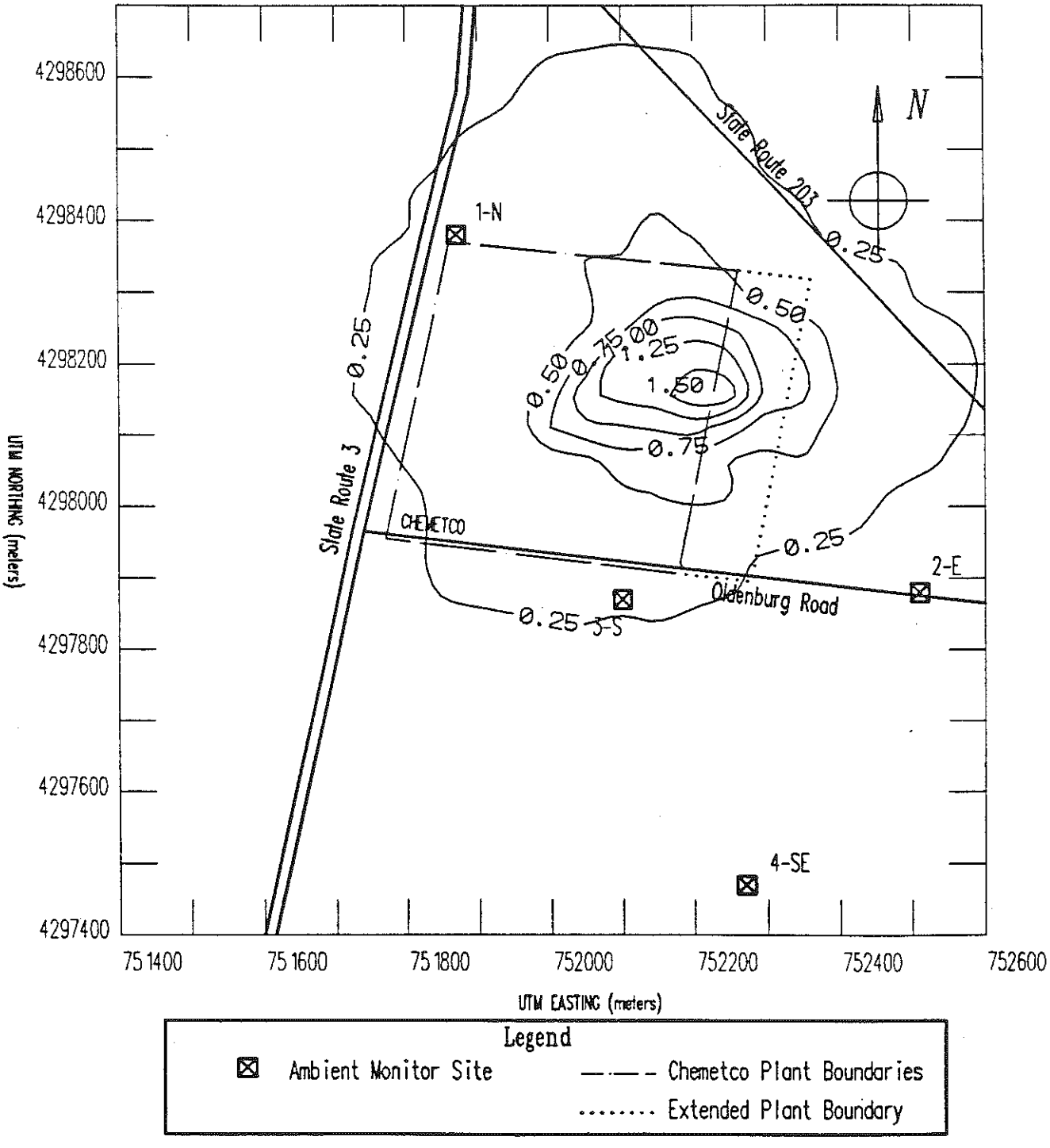
B. RESULTS

The IEPA performed an air quality simulation using the ISCLT2 model to address expected air quality in future years after Chemetco has implemented the control measures prescribed in the Consent Decree. The results of this simulation is shown graphically in Figure B. The contour lines representing lead air quality concentrations in the figure includes a background concentration to represent the impacts of regional lead sources and long-range pollutant transport.

The "future year" emission estimates described in Section III were incorporated in this simulation. Five years of meteorological data were used in the model for this scenario. The results of this simulation are shown in Figure B.

Figure B

CHEMETCO LEAD STUDY
MAXIMUM PROJECTED QUARTERLY CONCENTRATIONS (ug/m3)



From Figure B, it can be expected that lead air quality near Chemetco will be greatly improved when the control measures mandated by the Consent order are fully implemented. Projected lead concentrations are significantly below the NAAQS at all locations around the facility, with the exception of the localized area near the eastern boundary of the facility. The peak concentration projected by the model in this area is 1.8 ug/m^3 which is slightly higher than the standard of 1.5 ug/m^3. This peak concentration occurs at the existing facility fenceline.

A small area in Figure B, described by the 1.5 ug/m^3 contour, extends beyond the fenceline indicating that this area may experience concentrations above the NAAQS. This area is actually on Chemetco's property and is not being utilized by the general public. However, since the public can conceivable access this property, the IEPA requested that Chemetco extend the fenceline along the eastern boundary to prevent public access. The approximate location of the new fenceline is shown in Figure B. The maximum projected lead concentration at or beyond the new fenceline is 0.87 ug/m^3. When the lead air quality background concentration of 0.05 ug/m^3 is considered, the total lead maximum projected concentration becomes 0.92 ug/m^3, which is well below the NAAQS.

The results of this modeling investigation demonstrate that the control measures required in the consent order, when fully implemented by Chemetco, greatly improve lead air quality near this facility and are sufficient to ensure attainment with the lead ambient air quality standard.

MW/mls/sp801Y/1-7

ATTACHMENT A

Open Source Fugitive Emission

Dust Control Plan

Chemetco
FIRST IN PEOPLE – QUALITY – SERVICE
P.O. BOX 187 • ALTON, ILLINOIS 62002

OPEN SOURCE

FUGITIVE EMISSION

DUST CONTROL PLAN

Chemetco, Inc.
September 1993

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OPEN SOURCE

FUGITIVE EMISSION

DUST CONTROL PLAN

Chemetco, Inc.
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1.0 INTRODUCTION

Fugitive emissions are generated by a wide variety of sources at Chemetco, Inc. The term "fugitive emissions" is meant to include pollutants that enter the atmosphere without passing through a stack or duct designed to control the flow. This could include pollutants from certain types of processes or from open sources.

This document focuses on the open source fugitive emissions at Chemetco that contribute to the total lead and particulate emissions and on the measures that Chemetco will undertake to ensure control and compliance with the National Ambient Air Quality Standards and the protection of human health and the environment.

1.1 Industrial Source Description

Chemetco, Inc. is a secondary copper smelter and refiner that reclaims the copper values from various types of copper-bearing materials. Chemetco is located within a primarily agricultural, light residential area south of Hartford, Illinois and slightly north of St. Louis, Missouri. Chemetco is bounded on the west by a major, heavily traveled highway and a Norfolk and Southern railway. Chemetco is bounded on the south by a limited use secondary road, which is owned by Chemetco, and on the north and east sides by agricultural land some of which is also owned by Chemetco. Across Oldenberg Road is a parking lot for trucks delivering scrap to Chemetco. South and east of the truck lot is property belonging to Chemetco.

1.2 Fugitive Dust Source Description

To identify sources that may contribute to open fugitive emissions, Chemetco applied two criteria:

1) Areas where the pulverization and abrasion of surface materials by the mechanical force of equipment (such as tires) caused dust;

2) Actions of turbulent air currents, such as wind erosion of piles or the passing of trucks causing entrainment of dust particles in the air.

Following the identification of those areas, samples were collected of the materials that may be affected by mechanical grinding or turbulent air to determine the silt content. The sampling and analysis of these samples was done in accordance with Appendices C and D of EPA Document EPA-450/3-88-008, "Control of Open Fugitive Dust Sources." Determination of the size of the dust becomes important because of the potential to drift of smaller sized particles. The greater percentage of these small sized particles, the more intense the control has to be. The percentage of particles that pass a 200 mesh screen are those considered to be "silt."

2.0 SOURCE AREAS

For each of the source areas listed in Section 1, Chemetco has determined an uncontrolled emission rate, defined control measures and calculated expected control efficiencies. The sections below demonstrate this process.

A unique emission rate is associated with the type of fugitive emission generated in each source area. For instance paved roads have a different emission factor from unpaved roads and the type and degree of traffic contribute to variations in emission rates. It is necessary to determine which type of emission rate calculation is best suited for each open emission source. The equations used for sources that contribute to particulate emissions Chemetco are shown in Table 2-1.

Following determination of all the sources in a certain area, the control technology is discussed and evaluated by the determination of control efficiencies. Section 2.1 through 2-5 demonstrate this in three subsections.

Chemetco is proposing several combinations of control for source areas that are under the management of Chemetco. As outlined in the EPA Document "Control of Open Fugitive Dust Sources", EPA-450/3-88-008, a reduction in either the source extent or the uncontrolled emission factor reduce the emission rate. The control measures proposed here demonstrate the reduction of one or both. Each will be explained fully in the following sections. At least annually, this plan will be reviewed along with the ambient monitoring data to see if any areas need modification. Of course, any quarter the ambient air monitoring shows exceedences will require corrective action that may or may not necessitate revision of this plan.

From surveyed facility drawings, an estimated surface area has been determined for each of the source areas listed in Section 1.2 above. A facility map is supplied in Appendix A. The source areas are listed in Table 2-2.

TABLE 2-2
SOURCE AREAS*

Raw Material Scrap Yard	18,000 sq. yds.
Dust Handling/North End	4,350 sq. yds.
AAF Area	5,580 sq. yds.
Receiving	2,834 sq. yds.
Front Drive	2,934 sq. yds.
Oldenberg Road	8,791 sq. yds.
Truck Lot	28,363 sq. yds.
Slag Haul Road	2,667 sq. yds.
Kress Haul Road	3,022 sq. yds.
Granulation/Wet Screening	5,288 sq. yds.
Molten slag Dumping	2,644 sq. yds.
Zinc Oxide Bunker	10,845 sq. yds.
Slag Storage & Dry Screening	(12.92 acres)
Employee Parking Lot	3750 sq. yds.
ZnO Loading/Baghouse2	3231 sq. yds

*Square yardage includes "roads" such as through the scrap yard.

the road from the back gate to the RR tracks will be swept.

2.1.1.3 Calculations

Emission Equation

$E = k(5.9)\,)(s/12)(S/30)(w/4)^{0.5}((365-p)/365)(W/3)^{0.7}$ lb/VMT

OLDENBERG ROAD TRAFFIC

1. Variables and Emission Factor Calculation

k =	1	dimensionless factor
s =	4	% silt content
S =	20	mph traveled
W =	30	ton for 18 wheelers
=	20	ton for 6 wheelers
w =	18	wheels
=	6	wheels
p =	104	days rainfall exceeds .01 inches

For 18 wheel trucks
E = 9.96766 lbs/VMT
For 6 wheel trucks
E = 4.3328

2. Basis and Daily Uncontrolled Emission Calculation

A. From Entrance
Assumptions:
a> All trucks are 18 wheels
b> Maximum 40 incoming loads per day made up of 20 live loads and 20 drop loads. 6.5 days per week
c> For live loads, 100 ft in and 100 ft out. Total = 200 ft.
d> For drop trailers, 520 ft in to drop, 420 ft to scale, 420 ft. from scale to lot, and 520 ft from lot to road. Total - 1880 ft.

VMT = (20 live trailers * 200 ft) + (20 drop trailers * 1880 ft) = 41600 ft./day
= 13867 yd./day
= 7.88 mi/day

Emission, lbs/day = Emission factor, lbs/VMT * Vehicle Miles Traveled
= 9.9677 * 7.88
= 78.53 lbs/day for 18 wheel tractor-trailers

2.1.2 Kress Haul Road

The Kress is a special piece of equipment Chemetco uses to haul molten slag. The Kress Haul Road is an unpaved roadway that runs between the slag granulation or the slag pits to the edge of the concrete on the north end of the foundry building. The only other vehicles that travel this road are the water truck and occasionally front-end loaders. Travel in general is limited. The Kress only travels the road when slag is removed from the furnace process. This is done approximately 12 times per day. The front-end loader traffic mostly confines its travel to trips to the maintenance shop. This road is constructed of slag aggregates and granules.

2.1.2.1 Sources

Fugitive particulates are ground up slag particles stirred up by the turbulence of passing vehicles. The loaded Kress hauler does not cause too much problem since he cannot drive very fast, but the front-end loaders and the empty hauler can cause some emission. These particulates tend to be heavy and settle quickly before they can become airborne especially since they are relatively close to the ground anyway.

2.1.2.2 Control Methods

It is impractical to sweep this area. Control will be to ensure that speed limits are adhered to. This will be the responsibility of both the foundry manager and the slag plant manager. The water truck will make periodic trips to the top of the slag pit, but there is not assurance that he will just have been there when the Kress is hauling. Because of the very little quantity of emissions, control efficiency calculations only require the road be watered once/day, however, Chemetco will try to have the area flooded whenever the water truck drive is traveling through the area.

2.1.2.3 Calculations

KRESS HAUL ROAD

Emission Equation

$E = k(5.9)\,)(s/12)(S/30)(w/4)^{0.5}((365-p)/365)(W/3)^{0.7}$ lb/VMT

1. Variables and Emission Factor Calculation

k =	1 dimensionless factor
s =	10 %
S =	5 mph
=	15 mph
W =	94 ton loaded
=	54 ton empty
w =	8 wheels
p =	104 days rainfall exceeds .01 inches

For loaded Kress	
E =	9.23819 lb/VMT
For empty Kress	
E =	18.8016 lb/VMT

2.1.3 Slag Haul Road

Entering and exiting the back gate and also exiting the paved concrete by the zinc oxide area is the slag haul road. This road is also used by some delivery trucks. Like the Kress Haul Road, this road is constructed of slag aggregates with granulated slag used as a "packing material." This road is only used during slag plant operating hours.

2.1.3.1 Sources

The source particulate on the road is the grinding of slag aggregates against each other under the weight of the trucks. They become windborne as they are disturbed by the trucktires and the turbulence of the wind following the truck.

2.1.3.2 Control Methods

Dust Management will consist of scheduled applications of Coherex and controlled speed limits. The schedule for applications is shown in subsection 2.1.3.3. Responsibility to ensure the application and to judge the effectiveness will be the responsibility fo the Environmental Coordinator and the Foundry Manager who oversees the slag plant management.

2.1.3.3 Calculations

Emission Equation

$E = k(5.9)\,)(s/12)(S/30)(w/4)^{0.5}((365-p)/365)(W/3)^{0.7}$ lb/VMT

SLAG HAUL ROAD TRAFFIC

1. Variables and Emission Factor Calculation

k =	1	dimensionless factor
s =	10	%
S =	10	mph
W =	30	ton for 18 wheeler
=	20	ton for 6 wheeler
=	35	ton for front-end loader
w =	18	wheels
=	6	wheels
=	4	tires
p =	104	days with precipitation exceeding .01 inches

For 18 wheel trucks
E = 12.4596 lb/VMT
For 6 wheel trucks
E = 5.416 lb/VMT
For Front-end loaders
E = 6.54274 lb/VMT

2.1.4 Truck Lot

Just to the south of Chemetco Lane across from the employee parking lot is a lot for trailer parking. Chemetco receives slightly over half of its raw material by rail "Piggy-back" trailers. These are picked up by a local drayage company at the railyard and brought to Chemetco. The drayage company parks the trailer in the lot where it remains until Chemetco is ready for the material. Roughly 20 new trailers and 20 empty trailers are brought in and removed daily. In addition, Chemetco empties about 20 trailers each day so these are removed and returned to the lot.

2.1.4.1 Sources

The lot is contructed mostly of limestone and Chemetco produced slag. Dust is produced by the grinding of rocks against each other as trucks drive over them. It is then entrained into the air by the passing of those trucks and by gusts of wind. Section 2.1.4.3 shows the uncontrolled emission from the truck lot.

2.1.4.2 Control Methods

The lot is only active during receiving hours from 7:00 am to 5:00 pm. Chemetco has decided to utilize Coherex for dust management. A schedule for application is shown in Section 2.1.4.3. Not all the truck lot is full, so areas that aren't being used, needn't be addressed.

2.1.4.3 Calculations

Emission Equation

$E = k(5.9)\ )(s/12)(S/30)(w/4)^{0.5}[(365-p)/365](W/3)^{0.7}$ lb/VMT

TRUCK LOT

1. Variables and Emission Factor Calculation

k =	1	dimensionless factor
s =	11	%
S =	15	mph
W =	30	tons
w =	18	wheels
p =	104	days with precipitation exceeding .01 inches

For trucks parked in lot
E = 20.55831 lb/VMT

2.2 Paved Industrial Roads

These are areas at Chemetco that are concrete paved, do not store raw scrap materials and that experience limited traffic but may contribute to sources of open fugitive particulate emissions.

2.2.1 AAF and Stack Area

The roadway through the AAF area is subject mainly to traffic from fork trucks loading finished anodes. Under ideal operating conditions, anode loading lasts a total of about 8 hours. Under less than ideal conditions, anodes are stacked until they can be loaded and then loading typically lasts only 7 hours. This area is relatively lightly traveled in terms of the number of vehicles and the weight of the vehicles. It is also protected on three sides from the wind.

2.2.1.1 Dust Sources

Dust on the road that the traffic stirs up is from two main sources: dust from the small baghouse and dried material that has been cleaned out of and spilled from the Scrubber system during maintenance. The AAF area is an important factor because of the type of particulate sources. The scrubbers and the baghouse both collect zinc oxide that have high levels of metal oxides. While the entrainment of the dusts collectively, may not be a significant amount, compared to other open fugitive source areas, the amount of lead contributed by a small amount of these dusts may be significant.

2.2.1.2 Control Methods

Control will be composed of two functions: minimize the sources of the dust and keep any dust there is from becoming airborne with water until it can be removed. These functions are achieved by work practices such as:

- maintaining low speed limits;
- cleaning the concrete under the AAF after downtime maintenance;
- making sure the baghouse shoots are closed before changing storage bins (see Baghouse Bin Changing Procedure, Appendix B)
- making sure the storage bin lids fit securely after changing; and,

control practices such as:

- wet sweeping the roadway with the Elgin sweeper every day after anode loading;
- thoroughly wetting the area prior to beginning to haul anodes and once every hour thereafter;
- sweeping underneath the baghouse whenever the bins are changed;
- monthly inspections and repair of broken concrete that causes increased amounts of dust or impedes effective sweeping of dust.

2.2.3 Employee Parking Lot

Chemetco employs 99 full-time workers who operate the facility for three shifts, 7 days per week. A quick review of the visitor's log shows Chemetco hosts less than 20 visitors per day.

2.2.3.1 Sources

All visitors and employees enter via the west entrance to Chemetco Lane, travel over the railroad tracks and part of the same area trucks and trailers travel going into the plant. Dust is mainly fugitives from the truck lot that have blown over or are tracked around by trailers and cars.

2.2.3.2 Control Measures

Chemetco is applying Coherex to the truck lot to the truck lot, Chemetco Lane and the truck scale drive. This should cause some source reduction. In addition, Chemetco will sweep the lot once per day after the day shift (the most staffed) has left.

2.2.3.3 Calculations

EMPLOYEE PARKING LOT

E =0.077(l)(4/n)(s/10)(L/1000)(w/3)^0.7 lb/VMT

1. Variables and Emission Factor Calculation

l =	**1**	
n =	**1**	**lanes of traffic**
s =	**7.84**	**% silt**
L =	**10.62**	**lb/mi surface silt loading**
w =	**2**	**tons per vehicle**

E = 0.00193 lbs/VMT

2. Basis and Daily Emission Calculation

A. The parking lot covers 3750 sq. yards
B. Cars travel .10 miles per day in and out of lot
C. Per week there are 495 employee cars (99 employees)
D. Per weekday, there are approximately 20 visitors, contractors, deliveries, etc. (100 per week)

Emission =	**0.11488 lbs/week**
=	**0.01641 lbs/day**

3. Control Methods and Efficiency Determination

Control measures: Daily sweeping
Mitigative measures on source areas such as the truck lot

Table 2-4 in EPA-450/3-88-008 lists anywhere from 0-58% efficiency for sweeping. In addition, this area is blocked from wind picking up particles and carrying it by the office buildings to the north and east of the lot. These buildings also shield the lot from gusts coming in from the north and east.

2. Basis and Daily Emission Calculation

A. Aproximately one load of zinc oxide per day.
B. Every other day or so, the baghouse trailer is changed.
C. The water truck passes through occasionally
as so several sand delivery trucks.
D. Total of about 8 trucks per day.
E. Average distance each truck would travel is
690 ft roundtrip.

Emission =	17.0807 lb/day

3. Control and Efficiency Calculation

Emission control will consist of water flushing followed by broom sweeping.

C =96-0.263V (Table 2-4,p. 2.7, Ref. 1)

C = 90 %, minimum
V = # of vehicle passes between since last application

Average 8 trips per day =	16 vehicles per day
Operating hours =	10 hours/day

Water once every 2 hours during operating hours.

V =	3.6 vehicles per two hours
C =	95.05 % efficiency

fines, and fines in purchased slags, skimmings and drosses. The particulates become airborne when material piles are disturbed, wind erosion of the piles and turbulence from truck and tractor traffic through the area.

2.3.2 Control Methods

As this area is the largest contributor, the most concentrated efforts will be employed in the scrap yard. Both work practices and dust management will be employed. Work practices will include such efforts as:

- lowering speed limits to keep dust from becoming airborne;
- dropping front-end loader charges only as high as necessary rather than the entire 12-14 foot the bucket will raise;
- broom sweeping small areas so that the Elgin sweeper truck can pick up dust; and,
- monthly inspections of concrete to ensure broken concrete isn't ground into dust and that the concrete pavement is capable of being effectively swept;
- unloading scrap in pile areas when possible rather than in drive areas where it is necessary that a front-end loader must scrape it into a pile.

The major focus is lowering the amount of dust in the yard where the wind is most able to pick of the fines and scatter them. Chemetco will accomplish this with the use of a Dust Handling System for Storage and Charging. See the Construction permit application for "Material Handling and Dust Injection System" for details of the equipment and the types of material and scrap that will be usable. Raw materials for the Dust Handling System will be stored inside a building before being charged to the screening plant or just to the building and to the east of a loading dock. This should protect the fines from blowing and gusting winds. In addition, water cannons are installed on the outside of the building to keep dust in the area to a minimum. A flowmeter will allow Chemetco to keep track of the gallons of water used to keep the piles wet and minimize the number of times the water truck must visit this area. Dust screened and dried in the dust plant will be stored in a silo. This will remove approximately 34,320 tons of dust alone from the outdoor storage areas.

Other methods for dust control include watering of the scrap storage areas during high traffic periods and sweeping. All dusts swept up will be immediately added to one of the storage pile inside the dust handling building. They will not be placed on the ground outside. Operating control plans and maps are detailed in Section 4.0.

3. Control and Control Efficiency Calculations

The EPA Document "Control of Open Fugitive Dust Sources", EPA-450/3-88-008, does not specify any control efficiencies for the batch drop of materials from front-end loaders or the end of trailers. Because the materials in the piles will be sprayed with water, emissions from handling them should go down. The same equation as for uncontrolled emissions is being used to calculate controlled emissions, but the moisture content is changed. The following equation is then used to determine the efficiency:

$$C = 100 - \left(100 * \frac{Ec}{Eu}\right)$$

where, C = % Efficiency
Ec = Controlled emissions
Eu = Uncontrolled emissions

Emission Equation

E = k(.0032()U/5.0)^1.3/(M/2)^1.4} lb/ton

Variables

k =	1	
U =	5.5	mph, mean wind speed
Mu =	25	% moisture content, uncontrolled, fines
=	3	% moisture content, uncontrolled, solids
=	3	% moisture content, uncontrolled, miscellaneous
E =	0.0001	lb/ton fines
E =	0.0021	lb/ton solids
E =	0.0021	lb/ton miscellaneous

CONTROL	79.71	% fines
CONTROL	78.52	% solids
CONTROL	78.52	% miscellaneous

3. Control and Control Efficiency Calculations
B. WIND EROSION OF ACTIVE PILES

Target Efficiency: 90 %
Method of Control: Watering piles, work practices

Controlled Emissions = Uncontrolled Emissions (1-Target Efficiency/100)

or,

Ec = Eu(1-.90)

To achieve that control efficiency, the moisture should be increased. To determine the necessary gallons/acre of material, the following equations should be used.

$$(Mc)^2 = \frac{(Mu)^2 * Eu}{Ec}$$

where, Mc = % moisture controlled
Mu = 8 % moisture uncontrolled, fines
1 % moisture uncontrolled, solids
1 % moisture uncontrolled, miscellaneous

$$Pw = \frac{Mc - Mu - 1.41}{.13}$$

Uncontrolled moisture considered because it is not in the emission factor equation.

where, Pw = mm of water needed to be added to achieve efficiency

gal/acre = Pw(1065)

From scrap storage piles:

	Ec	Mc	Pw	gal/acre/day	acres	gal/day
fines	1.1423	25	120	127718	0.2	25544
solids	0.0571	3	5	4833	0.5	2417
miscellaneous	0.3427	3	5	4833	1.5	7250

3. Control and Control Efficiency Calculation

$$C = 100 - \frac{0.8pdt}{I}$$

where,

C =	95	Average control efficiency, percent
p =	0.325	Potential average hourly daytime evaporation rate, mm/hr
d =	37.2	average hourly daytime traffic rate (hr)^-1, vehicle passes/hr
t =		time between applications, hr.
I =	2.25	application intensity, minimum L/m2

p = 0.0065 * 50 (Page 3-12, Control of Open Fugutive Dust Sources)

D. SCRAP YARD TRAFFIC

	Vehicles/day	Passes/day
Live trucks	20	40
Drop trucks	20	40
Drag	18	36
Loaders	128	256

Total: 372 Vehicle Passes/day

Operating hours 10

d = 37.2 vehicle passes/hour

For a minimum of 95% control,
t = 1.16 hours between water applications

Watering every hour gives an efficiency of:

C = 95.70

D. SCRAP YARD OVERALL EFFICIENCY

Summary:

	Uncont'd Emission	Control Eff.	% of Total	Weighted Eff.
A. Batch Drop	31.57	78.92	53.70	42.38
B. Wind Erosion of Piles	15.42	90	26.23	23.61
C. Yard Traffic	11.795	95.7	20.06	19.20

TOTAL: 58.785 lbs/day 85.1933 %

2.4.3 Calculations

V. MOLTEN SLAG HANDLING

1. Emission Factor Calculation
There are no published emission factors.
Average "Throwaway" Slag Assay:

CuO	0.46
Fe2O3:	49.8
PbO:	0.61
SnO	0.24
ZnO:	7.51
SiO2:	25.01
Al2O3:	4.07

Average temperature out of furnace: 2080 F
ZnO Melting Temp: 3587 F
ZnO Boiling Temp: >3600 F

PbO Melting Temp: 1626 F
PbO Boiling Temp: ? F

Lead as lead oxide is the only metal that might oxidize.
The lead content as lead (rather than lead oxide), is .57%
Of all the material in the system in a day, about 12.53% of the
total, or .008%/min., reports to the zinc oxide or the stack emissions.
Therefore, assuming that .008%/min. of the lead in the surface of the s
exposed will volatilize until it cools and solidifies,
the lead emission from the surface is:

.57%Pb in slag * .008% Pb/min = 0.00005 %Pb/min

Wet Granulated Slag Screening

The slag is removed from the water barge by rubber-tired front-end loader. It is piled at the western side of the screen to allow the water to drain. The wet slag is then screened to remove oversize pieces. Emission calculations are as follows:

1. Variables and Emission Factor Calculation

E = 0.0032*((U/5)^1.3/(M/2)^1.4)

U = 6.5 mph, mean wind speed, Weather Bureau Data
M = 20 %, Material Moisture Content

E = 0.00014 lb/ton

2. Daily Emission Calculation

SOURCE DESCRIPTION - continuous unless otherwise noted	Process Rate
1) Loader drop-off to feed hopper (batch)	37.5 tons/hour
2) Oversize from hopper to pile	1.88 tons/hour
3) Feed from hopper to conveyor	35.63 tons/hour
4) Slag from conveyor to screen	35.63 tons/hour
5) Oversize from screen to pile	3.56 tons/hour
6) Undersize from screen to stockpile	32.06 tons/hour

Total Batch: 37.5 average tons/day
Total Continuous: 106.75 average tons/day

ANNUAL FEED = 37.5 ton/hr * 365 hr/yr = 13687.5 ton/yr

EMISSION = 0.03 lbs/day

SLAG OVERALL SUMMARY (Haul Road not included)

	Uncont. Emsn	% Control	% of Total	Weighted Control
Kress Pot Hauling	0.00	0.00	0.00	0.00
Slag Dumping to Pit	1.34	0.00	4.08	0.00
Slag Granulation	0.03	0.00	0.09	0.00
Granulated Slag Screening	0.04	100.00	0.12	0.12
Air-cooled Screening	19.01	75.00	57.85	43.39
Slag Storage	12.44	75.00	37.86	28.39
TOTAL:	32.86			71.90 %

2. Basis and Daily Emission Calculation

Facts and Assumptions:

a> The Bunker covers 2.235 acres.

Uncontrolled Emission, lbs/day = Emission factor, lbs/day/acre * acres

=	248.991 lbs/day	QTR 1
=	240.937 lbs/day	QTR 1
=	106.71 lbs/day	QTR 3
=	134.227 lbs/day	QTR 4

3. Control and Control Efficiency Calculations

Assume the 20% silt content takes into account the slag covering over the north-west sides of the bunker.

The hydrophilic nature of the material is not taken into account by the emission calculation. From borings taken into the pile (for other purposes) it is known the average moisture is 45 %. In general, the material crusts over by itself. To aid in that, Coherex is annually applied to the bunker to increase the crusting and reduce any wind erosion of the crust itself. Most of the material is contained below the level of the wall of the bunker. To keep south winds from eroding the material, the northern edge of the bunker has been built up and covered with slag. Control efficiency is calculated as follows:

$$Ec = \frac{(Mu)^2 * Eu}{(Mc)^2}$$

$$1 - \frac{Ec}{Eu} * 100 = \% \text{ Control}$$

where,
Ec = Controlled emissions
Eu = Uncontrolled emissions
Mc = 45 %, Moisture controlled
Mu = 1 %, Moisture uncontrolled

therefore:

Ec =	0.1230 lbs/day
Ec =	0.1190 lbs/day
Ec =	0.0527 lbs/day
Ec =	0.0663 lbs/day

C e 99.95 %

3.2 Organization/Responsibilities

Success of any plan is dependent on the personnel who manage, organize and are responsibit for key tasks. The personnel are as follows:

Environmental Coordinator: The environmental coordinator's responsibilities include review of all control plans and data, authorization of revisions to work plans and to this control plan, record-keeping and documentation assurance. It will be the environmental coordinator's responsibility to insure that all responsible managing personnel understand their areas of responsibility.

Managing Personnel: Managing personnel are responsible for ensuring that employees working for them follow prescribed work practices. These personnel will have a responsibility to ensure that their work area is adequately cleaned and managed in accordance with this plan. It is their responsibility to inform the environmental coordinator of defects in the plan, inadequate cleaning or fugitive reduction in their area or problems in the system. The Area Managers are:

Yard Manager Manages the receiving and sampling of incoming scrap. It is his responsibility to make sure drivers in the scrap yard obey the speed limits; that loaders drivers do not cause increased emissions by certain work practices; that the area is swept and watered thoroughly when needed. Changes to the daily plan should be discussed with the environmental coordinator and documented. The water truck driver reports directly to the yard manager.

Mobile Maintenance Manager: The mobile maintenance manager is responsible for both preventative and corrective maintenance of cleaning equipment such as the Elgin sweeper and the water truck. He maintains his own records and they are provided to the environmental coordinator quarterly. Efforts will be made to coordinate maintenance with operating schedules and much as possible. If a piece of control equipment will be down for several unscheduled days, the mobile

3.3 Quality Control - Field Activities

This section describes specific activity aimed at the prevention and early detection of circumstances adversely affecting the quality of any of the control actions or work practices.

3.2.1 Document Control

Document Control serves a two-fold purpose. It is a formal system that ensues that:

1) All participants in the project are promptly informed of revisions to Work Practice Procedures or changes in the work plan; and
2) All critical documents generated during the course of the operations, inspections and corrective actions are accounted for.

All Work Practices, Inspections, Standard Operating Procedures and Operating Plans have the following information on each page:

- Page Number;
- Total Number of pages in the document;
- Revision number;
- Revision date.

When any of these documents is revised, the affected pages are reissued to all personnel listed as document holders with updated revision numbers (as appropriate) and dates. Issuance of revisions is accompanied by explicit instructions as to which documents or portions of documents have become obsolete.

Control of, and accounting for documents generated during the course of the project is achieved by assigning the responsibility for document issuance, execution and archiving. The environmental coordinator should be responsible for these.

Table 3-3 lists the key documentation media for the project and corresponding responsibility parties for issuance, execution and archiving.

3.4 Training

All personnel working on fugitive emission control will be properly trained individuals. Personnel will be given instructions specific to their job and any related activities covering the following areas:

- Organization and lines of communication and authority;
- Overview of this Control plan and individual work plans; and
- Documentation requirements.

3.5 Control Assurance Auditing and Corrective Action Procedures

To ensure that adequate records reflect adequate cleaning, supporting documentation will be reviewed for completeness, correctness and legibility along with Ambient Air Monitoring Results, visual results and the comments of responsible personnel to assess the effectiveness of the control program. This audit procedure is the responsibility of the Environmental Manager. Actions taken in response to audit findings to remedy or correct deficiencies observed in an audit are referred to as corrective action. The purpose of this section is to establish procedures for closed-loop corrective actions to noted deficiencies.

A report will be written and issued to all personnel who received this document. Those persons are to comment on audit findings or make rebuttals. These responses will be taken into account in the revision to the draft audit report at the auditors discretion. Those comments should be attached as an appendix to the final report. The final report will be filed in a subject file and issued to the Plant Manager. Items requiring corrective action will be documented on a corrective action request to the Area Manager responsible as well as the Environmental Coordinator. When satisfactory progress has been achieved on each requested action, the manager enters descriptions of actions and results on the form, then retains the copy and returns the original to the subject file.

The Environmental Office maintains a file of corrective action requests and keeps track of their progress. Unresolved corrective action requests are listed in a annual facility audit report.

3.6 Elgin Wet Sweeper Control Plan and Maintenance

The Elgin Wet Sweeper will be used on all paved plant surfaces identified below in Table 3-5. The frequency of for sweeping each area is also identified in this Table. These are numerically labeled and can be coordinated with areas shown in Figure 4-1.

Figure 3-2 shows the driver records that will be kept for the sweeper truck operation. This also includes a section for corrective action maintenance. Regular preventative maintenance schedules are shown in Figure 3-3. Daily sheets will reflect any scheduled or unexpected downtime, also any cursory observations such as pavement condition, excessive dust in any particular area, etc.

ELGIN SWEEPER ASSIGNMENTS - SITE PLAN

ORIGINAL ON FILE AT ILLINOIS EPA

FIGURE 3-3
ELGIN SWEEPER
PREVENTATIVE MAINTENANCE SCHEDULE

Wang Master File Code:	318*
Description:	Elgin Sweeper
Equipment Type:	SS
Annual^ Days Service	30, 180, 365

Maintenance Description	30 days	180 days	365 days
Change Oil & Oil Filter	X	X	X
Replace Fuel Filter	X	X	X
Replace Engine Air Filter Elements	X	X	X
Lubricate all 150 mile & 600 mile Items	X	X	X
Check Transmission Fluid Level	X	X	X
Replace Hydraulic Reservoir Filter	X	X	X
Check Fluid Level in Brake & Clutch Master Cylinder	X	X	X
Check Fluid in Differential	X	X	X
Check Steering Gear Box Fluid Level	X	X	X
Tune up Engine	X	X	X
Wash Out Radiator. Record Freezing/Boiling Points of Coolant	X	X	X
Check Electrolyte Leven in Battery & Record Hydrometer Readings	X	X	X
Clean Battery Post Connections	X	X	X
Check Instruments, B/U Alarm	X	X	X
Check all Drive Belts for Proper Tension	X	X	X
Check condition of Radiator and Heater Hoses and Connections	X	X	X
Drain and Refill Transmission		X	
Drain, Clean and Refill Hydraulic Tank		X	
Drain & Refill Power Take-Off Transfer Case		X	
Drain and Refill Differential		X	
Check Conveyor Belt Tension		X	X
Repack Differential Axle Bearing Carrier			X
Repack Drive Wheel Bearings			X
Repack Steer Wheel Bearings			X

*To look up PM and Corrective Action Work Completed
^After put in service

WATER TRUCK ASSIGNMENTS - SITE PLAN

ORIGINAL ON FILE AT ILLINOIS EPA

FIGURE 3-6
WATER TRUCK
PREVENTATIVE MAINTENANCE SCHEDULE

Wang Master File Code:	715*
Description:	Mack Red Water Truck
Equipment Type	TT
Annual^ Days Maintenance:	45, 90, 270, 365

Maintenance Description	45 days	90 days	270 days	365 days
Check Lights, W/S Wiper, B/U Alarm & Instruments	X	X	X	X
Check Electrolyte Level in Batteries & Record Hydrometer Reading	X	X	X	X
Clean & Inspect Battery Connections	X	X	X	X
Drain Air Tank	X	X	X	X
Replace Air Cleaner Element Only if Restriction Gauge is in Red Zone	X	X	X	X
Torque Wheel Rim Lug Nuts	X	X	X	X
Check all Drive Belts for Wear, Tension & Alignment	X	X	X	X
Check Motor Mounts and Transmission Mounts for Tightness	X	X	X	X
Check Entire Frame for any Cracks or Signs of Bending, Loose Bolts, etc.	X	X	X	X
Wash Out Radiator	X	X	X	X
Record Freezing/Boiling Points of Coolant	X	X	X	X
Check Fluid Level in Differential	X	X	X	X
Torque Axle Flange Nuts to 130 lb.ft.		X	X	X
Drain Water & Sediment from Fuel Tank			X	X
Lubricate Chassis per Lubrication Schedule L			X	X
Change Engine Oil & Oil Filters			X	X
Change Fuel Filters			X	X
Change Coolant Filter			X	X
Replace all four drive axles				X

*To look up PM and Corrective Action Work Completed
^After put in service

5.0 REFERENCES

Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources. AP-42 Fourth Edition, September 1985.

Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources. AP-42 Fifth Edition, September 1988.

Control of Open Fugitive Dust Sources, EPA-450/3-88-008, September 1988.

Operating Records, Chemetco, Inc. 1992-1993.

SITE PLAN - BLUEPRINT

ORIGINAL ON FILE AT ILLINOIS EPA

STANDARD OPERATING PROCEDURE FOR CHANGING BAGHOUSE DUST BINS

This procedure defines the method to be used for changing the dust collections bins under Baghousel. The collected cyclone dust is to be recycled through the dust injection system because of its copper content. The baghouse dust itself it shipped with the wet zinc oxide to Metaleurop.

1) Close the discharge valve and shut off the blowdown to the bin to be emptied.

2) Using your hands or some light tool, hit the sides of the discharge tube to dislodge any dust that remains on the sides.

3) Carefully remove the lid to not disturb any dust in the bin or loosen any in the tube.

4) Cover the bin with plastic or another barrel lid.

5) Move the full bin out of the way.

6) Move an empty bin in place.

7) Carefully replace the bin cover and gently hammer it in place.

8) Turn on the blowdown and open the discharge valve to the new bin.

9) Take the full bin to either the zinc oxide loading area or into the D.I.S. building.

APPENDIX C

Clemelco

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PURCHASE ORD
10897- 1

P O BOX 67 • HARTFORD ILLINOIS 62048 • (618) 254-[illegible] FAX (618) 254-0138

VENDOR
CAM CONSTRUCTION LTD.
P. O. BOX 861
SOUTH ROXANA, IL 62087

Accounts Payable Department
Tel. (618) 254-4381
Purchasing Department
Tel. (618) 254-3310

Mail to: P.O. Box 67
Hartford, Illinois 62048

Ship to: Rte. 3 and Oldenberg Rd.
Hartford, Illinois 62048

ATTENTION:

DATE OF ORDER	DATE REQUIRED	CONFIRMING ORDER	DEPARTMENT	ACCOUNT NO.	APPROVED
8/27/92	8/28/92	YES X NO	REZNALEK - GROUNDS & UTILITIES		
SHIPPING INSTRUCTIONS		F.O.B. POINT	REQUISITION NO.	TERMS	
PREPAID YOUR OPTION		DELIVERED	18456	NET 30 DAYS	

CODE NO.	ITEM	QUAN	DESCRIPTION	PRICE
0011892	1		Apply COHEREX for chemical stabilization and dust suppression to accomplish 75%+ control of fugitive emissions in the bunker area. Total: $2800.00	2800.00

Brian Sumner

CAM CONSTRUCTION, LTD.
300 Daniel Boone Trail
P.O. Box 861
SOUTH ROXANA, IL 62087
PH. 618-254-3855 FAX 618-254-2200

INVOICE

SOLD TO:

Chemetco, Inc.
P.O. Box 67
Hartford, IL 62048

SHIP TO:

Chemetco, Inc.
Route 3
Hartford IL 62048

ACCOUNT NO.	SALESPERSON NO.	SHIP VIA	TERMS	INVOICE DATE		PAGE
210		Other	Net 30 Days	9/14/92		1

QTY. INVOICED	ITEM NO.	DESCRIPTION	UNIT PRICE	EXTENDED PRICE
1	520	Coherex- Furnished & Applied	2,800.00	$2,800.00

PO # 10897-1

SUBTOTAL:	$2,800.00
TOTAL:	$2,800.00

Thank You

Jan-Mar	Apl-June	Jul-Sept	Oct-Dec
101.10	873.91	143.27	245.06
420.70	347.03	822.14	72.05
811.58	105.00	140.43	98.32
20.16	60.00	25.29	86.26
633.67	829.41	16.40	40.43
201.70	1263.23	203.50	112.19
96.53	1726.74	24.46	104.52
746.85	146.83	153.61	42.34
1217.02	89.26	214.41	38.90
209.88	20.27	58.96	26.57
150.75	1084.91	111.28	144.74
172.74	121.53	76.26	460.60
300.65	65.67	35.65	189.26
1559.99	215.46	161.12	11.66
129.69	1606.84	14.72	40.11
879.47	1484.23	17.19	154.25
22.81	622.01	28.59	86.90
80.45	32.06	183.26	300.09
3337.75	127.67	19.92	233.86
625.56	48.75	296.33	186.45
407.08	21.91	134.64	127.57
1277.57	638.17	36.53	20.70
445.66	1162.24	19.23	66.60
2662.34	1519.31	55.29	15.64
107.69	105.76	968.00	19.02
1338.55	44.46	45.06	13.61
3206.08	152.07	3505.54	2738.10
790.20	626.27		
400.16	101.22		
2956.19	10.22		
118.66	1503.61		
1072.68	16756.05		
2860.16			
2675.46			
392.11	Tons	Weekly	Average
3294.70	Trucks	Weekly	Average
750.00			
267.60	Used 20	Ton Per	Truck Avg.
265.12			
1010.13			
231.98		Tons	
838.68		Trucks	
437.79			
690.00			
46.77			
240.00			
1167.87			
1559.83			

1992	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Average	3837.81	1396.34	292.13	228.18
Average	191.89	69.82	14.61	11.41
	40	14	3	2

1st 1993
1693.04
81.85

APPENDIX E

STOCKPILE SURFACES

Unprocessed slag pile area:	12 acres	(based upon plant survey)	
Active stockpiles:	10" x 2-1/4"	10000 sq. ft	
	2-1/4" x 1/2"	10000 sq. ft	
	1/2" x 3/16"	10000 sq. ft	
	-3/16"	10000 sq. ft	
	Total*:	40000 sq. ft	(based on Operating plan)
	Acres:	0.92	

*Area of the oversize is considered negligible and metallic scrap will be removed immediately for pyrometallurgical processing.

5.4 EMISSION FACTOR CALCULATIONS

5.4.1 Batch Loading (Eqn. 1 p. 11.2.3-3, AP-42)

$$E = k(.0018)\frac{(s/5)(v/5)(H/5)}{(M/2)^2\ (y/6)^{0.33}}$$

E = 0.0003 lb/ton for Batch Loading

5.4.2 Continuous Loading (Eqn. 2, p. 11.2.3-4, AP-42)

$$E = k(.0018)\frac{(s/5)(v/5)(H/10)}{(M/2)^2}$$

E = 0.000152 lb/ton for Continuous Loading

5.4.3 Vehicular Traffic within Screening Area (Eqn. 1, p 11.2.1-1. AP-42)

$$E = k(5.9)(s/12)(S/12)(W/3)^{.7}(M/4)^{.5}((365-p)/365)$$

10-Wheel Trucks:		6-Wheel Trucks:	
E gross =	0.569 lb/VMT	E gross =	0.265 lb/VMT
E empty =	0.334 lb/VMT	E empty =	0.152 lb/VMT

5.4.4 Wind Erosion of Pile Surfaces (Eqn. 1, p. 11.2.3-5, AP-42)

$$E = 1.7\frac{(s)(d)(F)}{(1.5)(235)(15)}$$

E = 2.23 lb/acre/day

5.6 EMISSION SUMMARY

SOURCE	AVERAGE lb/hr	AVERAGE ton/yr	MAXIMUM lb/hr	MAXIMUM ton/yr
BATCH LOADING (based on 1690 hr/yr)	0.03	0.03	0.04	0.03
CONTINUOUS LOADING (based on 1690 hr/yr)	0.09	0.07	0.09	0.08
VEHICLE TRAFFIC (based on 1690 hr/yr)	2.30	1.94	2.55	2.16
WIND EROSION (based on 24 hr day and 365 days per year)	1.20	5.26	1.20	5.26
TOTALS:	3.62	7.30	3.89	7.53
Lead Content of Slag:	0.72 %			
Lead Emissions:	0.0261	0.0526	0.0280	0.0542

5.7 RE-EVALUATED FACILITY EMISSIONS (tons/year)

	Area 2 Yard Particulate	Total Particulate	Area 2 Lead Emission	Total Lead Emission
Previous	1.7633 (Worst Case)	47.87 tons/year	0.01763 (Worst Case)	5.68 tons/year
With Screening	7.53 (Maximum)	53.6367 tons/year	0.054 (Maximum)	5.71637 tons/year

NOTE: All other categories of facility emissions remain the same.

Chemetco

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THIS NUMBER MUST APPEAR ON LETTERS, INVOICES, PACKING AND SHIPPING PAPERS

P O BOX 67 • HARTFORD, ILLINOIS 62048 • (618) 254-3855 • FAX: (618) 254-0138

618-254-3855

PURCHASE ORDER
15263- 1

VENDOR
CAH CONSTRUCTION LTD.
P. O. BOX 861
SOUTH ROXANA, IL 62087

Accounts Payable Department
Tel. (618) 254-4381
Purchasing Department
Tel. (618) 254-3310

Mail to: P.O. Box 67
Hartford, Illinois 62048

Ship to: Rte. 3 and Oldenberg Rd.
Hartford, Illinois 62048

ATTENTION:

DATE OF ORDER	DATE REQUIRED	CONFIRMING ORDER?	DEPARTMENT	ACCT CODE	APPROVED
5/20/93	5/20/93	YES X NO	REZNACH - GROUNDS & BUILDINGS		
SHIPPING INSTRUCTIONS		FOB POINT	REQUISITION NO.	TERMS	
PREPAID YOUR OPTION		DELIVERED	17445	NET 30 DAYS	

CODE NO.	ITEM	QUAN	DESCRIPTION	PRICE
0015115	1		Coherex Dust Suppression on Plant Road as follows:	4440.00
			1st Appl. Day 1 $1200.00	
			2nd Appl. Day 15 540.00	
			3rd Appl. Day 31 540.00	
			4th Appl. Day 46 540.00	
			5th Appl. Day 76 540.00	
			6th Appl. Day 106 540.00	
			7th Appl. Day 136 540.00	
			Total: $4440.00	

Brian Sumner

NOTE : Please submit all applicable MSDS s

CAM CONSTRUCTION, LTD.

PRODUCT SALES DIVISION

South Roxana, IL 62087
Phone: (618) 254-3855
Fax: (618) 254-2200

INVOICE NO. No 3945

DATE	CUSTOMER P.O. NO.	TERMS	F.O.B. (Shipping Point-Unless Otherwise Noted)
5/19/93	15263r	Net 30 days	

SOLD TO
Chemetco
Rt. 3 & Olenburg Rd.
Hartford, IL 62048

SHIP TO
Chemetco
Rt. 3 & Olenburg Rd.
Hartford, IL 62048

CAM Representative

ITEM ORDERED	UNIT PRICE	UM	INVOICE QUANTITY	AMOUNT
NOIBN, Non-Flammable, Non-toxic Coherex Intial Application		1	500 GAL.	

PER

* U/M 1=GALS. 2=LBS. 3=CASES. 4=BARRELS. 5=TONS. 6=AS SPEC'D. 7=LITERS. 8=KILO.

WE CERTIFY COMPLIANCE WITH THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED.
ALL CLAIMS TO BE MADE IN WRITING WITHIN 15 DAYS AFTER DELIVERY OF GOODS AND IN ANY EVENT SHALL BE LIMITED TO THE SELLING PRICE.
NO DISCOUNT ALLOWED ON TAXES, FREIGHT AND DEPOSITS FOR CONTAINERS.
CLAIMS FOR THE SHORTAGES OF LESS THAN ½ OF 1% OF THE NEW WEIGHT OF BULK SHIPMENTS WILL NOT BE ALLOWED.

CAM Construction LTD. is not liable for any product contamination when it is transported in any vessel other than our own. All our products are cationic.

"SELLER MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, EXCEPT THAT THE GOODS SOLD HEREUNDER SHALL MEET SPECIFICATIONS OF BUYER. AFTER THE GOODS ARE ACCEPTED BY THE BUYER WITHIN THE TIME SPECIFIED THE BUYER ASSUMES ALL RISK AND LIABILITY FOR DAMAGES RESULTING FROM THE USE OF THE GOODS, WHETHER USED BY THE BUYER SINGLY OR IN COMBINATION WITH OTHER PRODUCTS, OR IF SOLD BY BUYER TO THIRD PERSONS EITHER IN ITS ORIGINAL FORM OR IF REPACKAGED BY BUYER AND THEN SOLD TO THIRD PERSONS."

7/20/93

Chemetco

Attn: Michelle Reznack

Areas to be TREATED:

	SQUARE YARDS
1. TRUCK DRIVEWAY TO SCALE 335' x 50' = 16,750'	1860
2. TRAILER PARKING LOT 635' x 425' = 269,875'	30,000
3. BLACKTOP RD. 25' x 900' = 22,500'	2,500
4. ROAD THROUGH SLAG/AGGREGATE 25' x 1000 = 25,000'	2780
5. ENTRANCE INTO FACTORY FROM BLACKTOP RD. 20' x 35' = 700	70
	37,200 Sq. Y

ILLINOIS DEPARTMENT OF
PUBLIC HEALTH
A Healthier Today For A Better Tomorrow

Bernard J. Turnock, M.D., Director

June 21, 1990

MADISON COUNTY - Hartford

WATER WELL CONSTRUCTION

OWNER: Chemetco
DRILLER: Gary Sisk

PERMIT NO. 017393
VISITED: 6/19/90

Chemetco
c/o Michelle Reznack
Post Office Box 67
Hartford, IL 62048

Dear Ms. Reznack:

On June 19, 1990, a representative of our Edwardsville Regional Office made an inspection of your new well to determine whether it had been constructed in a manner, and at a location which would give the best assurance of a continuously safe supply of water. At the time of this inspection and at the stage of contruction when the inspection was made, it appeared that the well had been completed in accordance with the requirements of the Illinois Water Well Construction Code.

It should, therefore, provide proper protection against the entrance of bacterial contamination and yield a safe water supply over an extended period of time.

We should add a word of caution in regard to keeping your water supply safe. No potential contamination sources such as sewers, drain lines, septic tanks, etc., should be constructed in the vicinity of the well or uphill from it. Additionally, whenever repairs are carried out on the well, pumping equipment, pressure tank or piping, disinfection with a chlorine compound should be conducted, such as described in the enclosed bulletin.

If you should have any questions regarding your private water supply, please contact our Edwardsville Regional Office located at 22 Kettle River Drive, Edwardsville, Illinois, 62025, or telephone 618/656-6680.

Sincerely,

Michael D. Hungerford, P.E.
Regional Engineer

MDH:eg:c

cc: Division of Environmental Health
Region 4

1. NAME OF SOURCE: Chemetco

2. ADDRESS:
STREET OR RR: P.O. Box 467
CITY, TOWN, STATE: Hartford, Ill. 62048 ZIP CODE
COUNTY: 119

OFFICIAL USE
9. MICROFILM NBR:
10. TRAN. CODE: 55
11. REGION OR LHD: 904
12. LABORATORY ID: 001

3. DATE COLLECTED: MO 06 DAY 19 YR 90
4. TIME COLLECTED: AM PM 0200
13. COLLECTOR ID:
5. TYPE OF SAMPLE:
14. SAMPLE NUMBER:
6. COLLECTED BY: Charles Jones, Region V

7. SOURCE OF SAMPLE:
Before Treatment

OFFICIAL USE ONLY

8. MAIL REPORT TO:
NAME: Chemetco c/o Richard Bezmarek
STREET: P.O. Box 467
CITY/STATE: Hartford, Ill. ZIP CODE 62048
TELEPHONE NUMBER: ( ) - -

ANALYSIS REQUESTED: Heavy Metals: Pb, Cd, Ni, Cu, As

COMMENTS:

15. LABORATORY RESULTS:

PARAMETER	MD	RESULT	*UNIT	PARAMETER	MD	RESULT	*UNIT
Lead in water		<0.0125	X	Cadmium in H_2O		<0.0006	X
12/12/90 PML Lead in Copper in water		0.12	X				
Arsenic in Water		<0.025	X				
Nickle in Water		<0.5	X				

*CODE UNIT AS FOLLOWS:
% = PERCENT, A = GRAMS, B = /GM, C = DEGC, F = DEGF, H = /100ML, I = MICROGRAM/L, J = /100 GM, L = MG/L, M = /ML, O = COLOR, T = TU, U = MICROGM/ML, X = PPM, Y = PPB

16. DATE RECEIVED AT LABORATORY: MO JUN DAY 26 YR 90 PML
17. DATE REPORTED FROM LABORATORY: MO 10 DAY 19 YR 90
ANALYST: PML

REMARKS: Satisfactory! All are below the EPA established Maximum Contaminant Levels.
Charles W Jones

LHD STAMP

IDPH • CDCF 022 • 2/77

SAMPLES SHOULD REACH LABORATORY WITHIN 30 HOURS AFTER COLLECTION

COMPLETE ITEMS 1 – 8 IN BOX. USE BLACK TYPING OR BALL PENCIL AND PRINT LEGIBLY.

COLLECTOR – PREPARE ONE FORM FOR EACH SAMPLE.

14020

OFFICIAL USE

NAME OF SOURCE OR FACILITY NAME: Chemetco (NAME OF SOURCE)

1a. ADDRESS OF SOURCE: P.O. Box 67 (STREET/RURAL ROUTE/ROAD)

Wanlock IL 62048 119 (CITY/TOWN/STATE; ZIP CODE; COUNTY CODE (SEE BACK))

2. DATE COLLECTED: 04 13 93 (MO DAY YR) 3. TIME COLLECTED: 1150 (AM) (PM)

4. IS SUPPLY CHLORINATED? (YES) 1 [X] (NO) 0 [ ] Kitchen (SAMPLE POINT DESCRIPTION (OPTIONAL))

5. COLLECTOR NAME: Charles W. Jones - Edwardsville Reg Office (NAME OF COLLECTOR)

6. SOURCE OF SUPPLY IS: (CHECK APPROPRIATE BOX & COMPLETE WHERE NECESSARY)

a. WELL (IF WELL + CHECK ONE BELOW): DUG [D] DRILLED [R] DRIVEN [V] BORED [B]

IF WELL ENTER DEPTH FEET

(IF OTHER THAN WELL CHECK ONE BELOW): b. CITY WATER [Y] c. CISTERN [C] d. SPRING [S] e. LAKE [L] f. OTHER [O]

7a. SAMPLE LOCATION: a. RAW AT PUMP [P] b. FILTERED [F] c. AT TAP [N] e. OTHER [O]

7b. SAMPLE TYPE: a. ROUTINE [R] b. CHECK [ ] c. OTHER [O]

8. SEND BOTTLES RESULTS TO:

NAME:

STREET, RR, ETC:

CITY/STATE: ZIP CODE:

TELEPHONE NBR: - -

REMARKS: Coliform - official Sample

FOR LABORATORY USE ONLY

15a. RESULTS:

PARAMETER	#0	NOT FOUND–D	UNIT*
TOTAL COLI (MF)	3000		H
TOTAL COLI (MPN)	3005		H
NITRATE (QUAN) AS N	1234		L
TURBIDITY	1235		T

16. DATE RECEIVED AT LABORATORY: MO DAY YR: APR 3 1993 TIME: 8:45 AM PM

17. DECHLORINATED BOTTLE? (YES) 1 [X] (NO) 0 [ ]

WORK AREA

10	1	.1	.01	.001	MEMBRANE FILTER: COLIFORM	FECAL COLIFORM
					100	
					0	

*CODE UNIT AS FOLLOWS: % = PERCENT; A = GRAMS; B = /GM; C = DEGC; F = DEGF; H = /100ML; I = /1000ML; J = MICROGM/L; K = DEGK; L = MG/L; M = /MG; O = COLOR; T = TU; U = MICROGM/ML; X = PPM; Y = PPB

18. DATE REPORTED FROM LABORATORY: MO DAY YR: 4 14 93 CKD

ANALYST (INITIALS): JW

15b. INTERPRETATION OF RESULTS: COLIFORM: (SATISFACTORY) (UNSATISFACTORY); FLUORIDE: (SATISFACTORY) (UNSATISFACTORY); NITRATE: (SATISFACTORY) (UNSATISFACTORY); TURBIDITY: (SATISFACTORY) (UNSATISFACTORY)

LHD STAMP

APPENDIX H

SCREEN ANALYSIS

Sample Designation: OLDENBEEG ROAD

Date: JUNE 7, 1993

Original Dry Weight: 980 grams

GROSS: 1050 grams
TARE: 70 grams

After Screening

+200 mesh Weight: 943.8

-200 mesh Weight: 36.26

$$\% \text{ Silt} = \frac{-200 \text{ Weight}}{\text{Original Weight}} = 3.7\ \%$$

- Old tared and gravelled
- Slag covers road nodo.

SCREEN ANALYSIS

Sample Designation: KEESS/SLAG HAUL ROADS

Date: JUNE 7, 1993

Original Dry Weight: 5 K

After Screening

+200 mesh Weight: 4.82 K

-200 mesh Weight: .17 K

$$\% \text{ Silt} = \frac{-200 \text{ Weight}}{\text{Original Weight}} = 3.4\ \%$$

- Covered w/ slag
- surface is just covered w/ fresh slag & might have fewer fines than after some wear

SCREEN ANALYSIS

Sample Designation: AAE E STACK AREA

Date: June 7, 1993

Original Dry Weight: 400 grams

After Screening

+200 mesh Weight: 111.3 grams

-200 mesh Weight: 288.5 grams

$$\% \text{ Silt} = \frac{\text{-200 Weight}}{\text{Original Weight}} = \frac{72.13}{\text{~~72.13~~}} \%$$

SCREEN ANALYSIS

Sample Designation: TRUCK DRIVEWAY

Date: June 7, 1993

Original Dry Weight: 963 grams

After Screening

+200 mesh Weight: 750.8

-200 mesh Weight: 212

$$\% \text{ Silt} = \frac{\text{-200 Weight}}{\text{Original Weight}} = 22.0 \%$$

SCREEN ANALYSIS

Sample Designation: D.I.S. FINES

Date: May 25, 1993

Original Dry Weight: 1.2 K

After Screening

+200 mesh Weight: .955 K

-200 mesh Weight: .245 K

$$\% \text{ Silt} = \frac{\text{-200 Weight}}{\text{Original Weight}} = \frac{20.4\ \%}{}$$

SCREEN ANALYSIS

Sample Designation: D.I.S. FINES

Date: May 28, 1993

Original Dry Weight: 1.6 K

After Screening

+200 mesh Weight: .766 K

-200 mesh Weight: .834 K

$$\% \text{ Silt} = \frac{\text{-200 Weight}}{\text{Original Weight}} = \frac{52.13\ \%}{}$$

ATTACHMENT B

1996 Future Chemetco

Lead Emission Rates

and

Inventory Development Document

1996 FUTURE CHEMETCO LEAD EMISSION RATES AND OPERATING HOURS
POINT SOURCE AND FUGITIVE EMISSION UNITS

Revised 10/4/93

Source & Mode	Description	1996 Controlled lbs/hr	1992-3 Baseline (lbs/hr)	Operating hrs / dy / wks
0002-0001	200 Ton Holding Furnace	0.0093	0.0093	16 7 52
0004-0001	Anode Casting	0.0003	0.0003	16 7 52
0005-0001	#1 Kaldo Smelting/Slag Treatment	0.185	1.920	by percent*
0005-0002	#1 Kaldo Refining	0.089	0.925	by percent*
0005-0003	#1 Kaldo Melting	0.0133	0.1379	by percent*
0006-0001	#2 Kaldo Smelting/Slag Treatment	0.320	3.330	by percent*
0006-0002	#2 Kaldo Refining	0.155	1.55	by percent*
0006-0003	#2 Kaldo Melting	0.0133	0.1379	by percent*
0007-0001	#3 Kaldo Smelting/Slag Treatment	0.320	3.330	by percent*
0008-0001	#4 Kaldo Smelting/Slag Treatment	0.320	3.330	by percent*
0008-0002	#4 Kaldo Refining	0.1538	1.600	by percent*
0008-0003	#4 Kaldo Melting	0.0133	0.1379	by percent*
0014-0001	Roof Monitor - SM/SL	0.0436	0.0436	by percent*
0014-0002	Roof Monitor - Refining	0.1473	0.1473	by percent*
0014-0003	Roof Monitor - Melting	0.0010	0.0010	by percent*
0021-0001	Scrap Pile - Wind Erosion	0.0045	0.0225	24 7 52
0022-0001	Wind Erosion - Exposed Areas	0.036	0.036	24 7 52
0023-0001	Kress Haul Road	0.0001	0.0092	12 7 52
0023-0002	Slag Haul Road	0.0055	0.0552	10 5 52
0025-0001	Hot Metal Transfer	0.0003	0.0003	16 7 52
0028-0001	Fines Dryer	0.0245	0.0245	8 5 52
0029-0001	Fines Silo	0.0368	0.0368	8 5 52
0031-0001	Fines Screening	0.0064	0.0064	8 5 52
0032-0001	Skiphoist/Grizzley Screen/ Pan Feeder/Pan	0.02533	0.02533	8 5 52
0036-0001	Solder Casting	0.0119	0.0119	4 6 52
0037-0001	Roofing Granules Screening	0	0	1 7 52
0038-0001	Quenching	0.0295	0.0295	1 7 52
0039-0001	Slag Pot Hauling and Unloading	0.1118	0.1118	12 7 52
0040-0001	Solder Separation	0.0303	0.0303	4 6 52
0041-0001	ZnO Roadway	0.0036	0.0776	8 5 52
0042-0001	Fines Receiving Unloading	0.006	0.006	8 5 52

*Furnaces 1, 2 and 4 are routinely operated in all three modes. Furnace 3 is only in the smelt and slag treatment mode. The hours of operation for all 4 change annually as material receipts change. Chemetco supplies the Agency with a yearly total for each operating mode. Smelting is currently at 50.86% of the total operating hours. Refining and melting are at 12.5% and 36.64% respectively.

Source & Mode	Description	1996 Controlled lbs/hr	1992-3 Baseline (lbs/hr)	Operating hrs / dy / wks
0043-0001	Ogdenberg Road	0.0090	0.1795	10 5 52
0044-0001	Truck Lot	0.0095	0.1891	10 6 52
0045-0001	AAF Stockpile Area	0.0199	0.2493	10 7 52
0046-0001	Truck Scale Drive (Paved)	0.0072	0.0720	10 7 52
0047-0001	Chunk Stockpile	0.0466	0.1111	10 7 52
0048-0001	Employee Parking Lot	0.0004	0.0006	24 7 52
0049-0001	Scrap Yard Traffic	0.0035	0.0413	10 7 52
0050-0001	Slag Handling, Pile Wind Erosion, and Screening	0.0071	0.0154	24 7 52 8 5 52

MM:sf/sp/840Y,2-3

Development Document
1996 Chemetco Lead Inventory Projections
Prepared September 23, 1993
Point Source and Fugitive Emissions

1. Source 0002 Mode 1 200 ton Holding Furnace -- exhausts into building -- no stack

   Controlled TSP = 6.16 lbs/hr @ 50% Control (Building Enclosure)
   Lead Content = 0.15% per Chemetco
   Controlled Lead (Pb) emissions = Controlled TSP (lbs/hr) x % Pb in particulate
   Controlled Lead (Pb) emissions = 6.16 lbs/hr x .0015
   Controlled Lead (Pb) emissions = 0.0093 lbs/hr
   0.15% Lead content based on Permit Application #84060045 information provided by Chemetco

2. Source 0004 Mode 1 Anode Casting

   Uncontrolled TSP = 0.3696
   Controlled = 50% Enclosure
   Controlled TSP = 0.1848 lbs/hr
   Lead content = .0015 per Chemetco
   Controlled Lead (Pb) emissions = Controlled TSP (lbs/hr) x % Pb in particulate
   Controlled Lead (Pb) emissions = .1848 lbs/hr x .0015
   Controlled Lead (Pb) emissions = 0.0003 lbs/hr

3. 0005 Mode 1 #1 Kaldo Smelting/Slag Treatment Mode

   9/23/92 Stack Test Controlled Lead Emissions = 1.92 lbs/hr @ 89.6% Control with Scrubber and Quencher
   With proposed baghouse @ 99% efficiency:

   Controlled Lead (Pb) = Stack Test Pb x (1-.99) divided by (1-.896)

   Controlled Lead (Pb) = 1.92 lbs/hr x (.01) divided by (0.104)
   Controlled Lead (Pb) = .185 lbs/hr

4. Source 0005 Mode 2 #1 Kaldo Furnace Refining Mode

   9/24/92 Stack Test Controlled Lead Emissions = .925 lbs/hr @ 89.6% Control with Scrubber and Quench.
   With proposed baghouse @ 99% control:
   Controlled Pb emission w/baghouse = Stack Test Pb x (1-.896) divided by (.01)
   Controlled Pb emission with baghouse = .925 lbs/hr x (.104) divided by (.01)
   Controlled Lead (Pb) Emission with Baghouse = .089 lbs/hr

5. Source 0005 Mode 3 #1 Kaldo Furnace Melting Mode
Particulate Emission = 1.969 lbs/hr Uncontrolled
Emission Factor from AIRS of 5.1 lbs/ton and Lead at 7% per Chemetco
Controlled Lead (Pb) Emission w/baghouse = Pb emission w/scrubber x (1-baghouse control) divided by (1-scrubber control)
Controlled Lead (Pb) Emission w/baghouse = 0.1379 lbs/hr x (1-.99) divided by (1-.896)
Controlled Lead (Pb) Emission w/baghouse = 0.1379 lbs/hr x (.01) divided by (.104)
Controlled Lead (Pb) Emission w/Baghouse = 0.0133 lbs/hr

6. Source 0006 Mode 1 #2 Kaldo Furnace Smelting/Slag Treatment Mode

Stack Test Controlled Lead Emissions = 3.33 lbs/hr @ 89.6% Control w/Scrubber and Quench
Proposed Baghouse @ 99% Efficiency:
Controlled with Baghouse Lead (Pb) Emission
Controlled Pb Emission with baghouse = Stack Test Pb x (1-Baghouse Eff.) divided by (1-.896)
Controlled Pb Emission with baghouse = 3.33 lbs/hr x (1-.99) divided by (.104)
Controlled Pb Emission with Baghouse = 3.33 lbs/hr x (.01) divided by (.104)
Controlled Pb Emission with Baghouse = 0.32 lbs/hr

7. Source 0006 Mode 2 #2 Kaldo Furnace Refining Mode

9/22/92 Stack Test Lead (Pb) Emission = 1.554 lbs/hr @ 89.6% Control w/Scrubber and Quench
Controlled Lead (Pb) with Baghouse = 1.554 lbs/hr x (1-.99) divided by (1-.896)
Controlled Lead (Pb) with Baghouse = 1.5545 lbs/hr x (.01) divided by (.104)
Controlled Lead (Pb) with Baghouse = .150 lbs/hr

8. Source 0006 Mode 3 #2 Kaldo Furnace Melting Mode

See Source 0005 Mode 1 for TSP and % Lead
Controlled Lead (Pb) emissions w/baghouse = Pb emissions w/scrubber x baghouse control divided by scrubber control
Controlled Lead (Pb) emissions w/Baghouse = 0.1379 lbs/hr x (1-.99) divided by (1-89.6%)
Controlled Lead (Pb) emissions w/Baghouse = 0.1379 lbs/hr x (.01) divided by (.104)
Controlled Lead (Pb) emissions w/Baghouse = 0.0133 lbs/hr

9. Source 0007 Mode 1 #3 Kaldo Furnace Smelting/Slag Treatment

9/25/92 Stack Test Controlled Lead Emission = 3.33 lbs/hr @ 89.6% control with Scrubber & Quench
With proposed baghouse @ 99% Control:
Controlled Pb w/Baghouse = Stack Test Lead x Baghouse Eff. divided by Scrubber Eff.

Controlled Pb w/Baghouse = 3.33 lbs/hr x (1-99%) divided by (1-89.6%)
Controlled Pb w/Baghouse = 3.33 lbs/hr x .104 x .01
Controlled Pb w/Baghouse = 0.32 lbs/hr

10. Source 008 Mode 1 #4 Kaldo Furnace Smelting/Slag Treatment Mode
Same as 0007 Mode 1 above

11. Source 0008 Mode 2 Refining Mode

9/23/92 Stack Test Stack Test Lead (Pb) Emissions = 1.60 lbs/hr @ 89.6% control with Scrubber & Quench with proposed baghouse @ 99% Control:
Controlled Lead (Pb) emission w/baghouse = Stack Test Pb x (1-Baghouse Control) divided by (1-Scrubber Emissions)
Controlled Lead (Pb) emission w/baghouse = 1.60 lbs/hr x (1-99%) divided by (1-89.6%)
Controlled Lead (Pb) emission w/baghouse = 1.60 lbs/hr x (1-.99) divided by (1-.896)
Controlled Lead (Pb) emission w/baghouse = 1.60 lbs/hr. x (.01) divided by (.104)
Controlled Lead (Pb) emission w/baghouse = 0.1538 lbs/hr

12. Source 0008 Mode 3 #4 Kaldo Furnace Melting Mode

Same as Source 0005 Mode 3 for TSP and % Lead
Controlled Lead Pb Emissions w/Baghouse = Lead Emissions w/Scrubber x (1-Baghouse Control) divided by (1-Scrubber Emissions)
Controlled Lead (Pb) emission w/baghouse = .1379 lbs/hr x (1-.99) divided by (1-.896)
Controlled Lead (Pb) emission w/baghouse = .1379 lbs/hr x (1-.99) divided by (1-.896)
Controlled Lead (Pb) emission w/baghouse = .1379 lbs/hr. x (.01) divided by (.104)
Controlled Lead (Pb) emission w/baghouse = .0133 lbs/hr

13. Source 0014 Mode 1 Roof Monitor - Smelting/slag Treatment

TSP AIRS Emission Factor is 5.27 lbs/ton
Controlled TSP emission = 0.1455 lbs/hr with baghouse
Lead is 15% per Chemetco
Hours of operation shows two furnaces typically in this mode during routine operation
Controlled Lead (Pb) emission = TSP emission (lbs/hr) x 15% Pb x 2 units
Controlled Lead (Pb) emission = 0.1455 x .15 x 2
Controlled Lead (Pb) emission = .0436 lbs/hr

14. Source 0014 Mode 2 Roof Monitor -- Refining Mode

TSP AIRS Emission Factor is 5.27 lbs/ton
Lead emissions 15% of particulate per Chemetco analysis
Lead emission factor is 5.27 lbs/hr x 15% = 0.791 lbs/ton
Canopy baghouse lead control efficiency = 99.0%
Uncontrolled Lead (Pb) emission = Operating Rate tons/hr x Pb emission factor

Uncontrolled Lead (Pb) emissions = 18.63 tons/hr x 0.791 lbs/ton
Controlled Lead (Pb) emissions = uncontrolled emissions x (1-control Eff.)
Controlled Lead (Pb) emissions = 14.73 x .01 = .1473 lbs/hr

15. Source 0014 Mode 3 Roof Monitor Melting-Charge, Tap, Slag Out

TSP AIRS Emission Factor is 0.49 lbs/ton
Controlled TSP Emission = 0.014 lbs/hr
Lead is 7% per Chemetco Black Copper analysis
Hours of operation show one furnace typically in this mode during routine operation
Controlled Lead (Pb) emissions = controlled TSP emissions lbs/hr x %Pb x 1 unit
Controlled Lead (Pb) emissions = 0.014 lbs/hr x .07
Controlled Lead (Pb) emissions = 0.001 lbs/hr

16. Source 0021 Mode 1 Scrap Pile Wind Erosion

Reference: Open Source Fugitive Emission Dust Control Plan (OSFEDCP), Chemetco., Inc. July, 93, pages 26 & 27, B Wind Erosion from Piles
TSP = 15.42 lbs/day divided by 1 Day/24 hours = 0.6425 lbs/hr uncontrolled
Controlled TSP = uncont. TSP x (1-90%) = 0.06425 lbs/hr controlled
Lead (Pb) content = 7% per Chemetco
Controlled Pb emissions = controlled TSP x % Pb
Controlled Pb Emissions = .06425 lbs/hr x .07
Controlled Pb emissions = 0.0045 lbs/hr

17. Source 0023 Mode 1 Kress Haul Road

Reference: OSFEDCP, pages 9 & 10
Uncontrolled TSP = 44.0224 lbs/day divided by 1 day/24 hrs. = 1.834 lbs/hr
Controlled TSP = Uncontrolled TSP lbs/hr x (1-control efficiency)
= 1.8343 lbs/hr x (1-0.997)
Controlled TSP = 0.0042 lbs/hr
Lead Content is 1% per Chemetco
Controlled Lead = controlled TSP x % Pb
= .0042 lbs/hr x .01
= .0001 lbs/hr

18. Source 0023 Mode 2 Slag Haul Road

Reference: OSFEDCP, pages 11 and 12
Control Efficiency = 95% Coherex
Uncontrolled TSP = 110.386 lbs/day
Uncontrolled TSP (lbs/hr) = lbs per day divided by 10 hours/day operation
Uncontrolled TSP (lbs/hr) = 11.0386 lbs/hr
Controlled TSP (lbs/hr) = uncontrolled TSP x (1-control efficiency)
Controlled TSP (lbs/hr) = 11.0386 lbs/hr x (1-.95)
Controlled TSP (lbs/hr) = 0.5519 lbs/hr
Lead Content is 1% per Chemetco
Controlled Lead (Pb) = controlled TSP x %Pb
Controlled Lead (Pb) = 0.5519 lbs/hr x .01
Controlled Lead (Pb) = 0.0055 lbs/hr

19. Source 0025 Mode 1 Hot Metal Transfer

Operating Rate is 24.64 tons/hr of Molten Metal
TSP emission factor is 0.015 lbs/ton
Maximum lead content is 0.15% since metal is 98.5% copper or higher (typical 99.5% plus)
Process is enclosed in a building @ 50% control efficiency
Controlled Lead (Pb) Emission = operating rate x TSP emission factor x % Pb x (1-control eff.)
Controlled Lead (Pb) Emission = 24.64 tons/hr. x .015 lbs/ton x .0015 x .50
Controlled Lead (Pb) Emission = .0003 lbs/hr

20. Source 0028 Mode 1 Fines Dryer

Operating Rate is 18.70 tons/hr from Permit Application Number 91110040
The lead content is 2.98% from same permit application
The Lead (Pb) emission Factor is 0.4098 lbs/ton of lead processed (TSP x % Pb)
Control efficiency is 99.68% for baghouse and silo system
Controlled Pb = operating rate tons/hr x Pb emission factor in lbs/ton x (1-control efficiency)
Controlled Pb = 18.70 tons/hr x 0.4098 lbs/ton x (1-.9968)
Controlled Pb = 0.0245 lbs/hr

21. Source 0029 Mode 1 Fines Silo w/Air Conveying

Operating rate is 13.2 tons/hr from permit application 91110040
No specific particulate emission factor therefore used "metal mining, dry grinding with air conveying SCC 30302409. Particulate emission factor is 28.8 lbs/ton
Control by bag filter and silo enclosure @ 99.68%
Uncontrolled particulate emission are 380.16 lbs/hr
Controlled particulate emissions are 1.236 lbs/hr
Lead content is 2.98%
Controlled Lead Pb Emissions = controlled particulate emission x % Pb
= 1.236 lbs/hr x .0298
Controlled Lead Pb Emission = .0368 lbs/hr

22. Source 0031 Mode 1 Fines Screening

From Construction Permit 91110040 page 20:
Operating Rate = 16.5 tons/hr.
Lead Content = 2.98%
Particulate Emission Factor = 4.0 lbs/ton
TSP = Operating Rate x Em = 16.5 tons/hr x 4 lbs/ton
TSP = 66 lbs/hr uncontrolled
Baghouse Control
Controlled TSP Emissions = 0.2145 lbs/hr
Controlled Lead (Pb) Emission = Controlled TSP x %Pb
Controlled Lead (Pb) Emission = 0.2145 lbs/hr x .0298
Controlled Lead (Pb) Emission = 0.0064 lbs/hr

23. Source 0032 Mode 1 Slip Hoist/Grizzley Screen/Pan Feeder/Pan

From Construction Permit 91110040:
Operating Rate = 17 tons/hr
Process inside a building
Water sprays applied at top of building where skip dumps into the grizzley
Lead content assumed at 2.98%
TSP Emission Factor = 0.5 lb/ton from AIRS, SCC 30301013
Uncontrolled TSP = Operating Rate x Emission Factor
Uncontrolled TSP = 17 tons/hr x 0.5 lbs/ton
Uncontrolled TSP = 8.5 lbs/hr
Controlled TSP = uncontrolled TSP x (1-control efficiency)
= 8.5 lbs/hr x (1-.90)
Controlled TSP = 0.850 lbs/hr
Controlled Pb = Controlled TSP x % Pb
Controlled Pb = 0.850 lbs/hr x .0298
Controlled Pb = 0.02533 lbs/hr

24. Source 0036 Mode 1 Solder Casting

Operating Rate = 2.0210 lbs/hr
Lead Emission Factor = .59 lbs/ton (TSP Lead Casting x % Lead)
Control Efficiency = 99% via hooding capture
Lead Emissions = O.R. lbs/hr x Emission Factor x (1-Control Efficiency)
Controlled Pb Emission = 2.0210 lbs/hr x .59 lbs/ton x .01
Controlled Lead (Pb) Emissions = .0119 lbs/hr

25. Source 0037 Mode 1 Roofing Granules Screening

Reference: OSFEDCP, Chemetco page 32
TSP emission = .04 lbs/day
TSP emission = .005 lbs/hr
Control = 90% water spray
Lead Content = 1%
Controlled Lead Emission = TSP emission x % Pb x (1-control efficiency)
Controlled Lead Emission = .005 lbs/hr x .01 x .1
Controlled Lead Emission = .000005 lbs/hr
Controlled Lead Emission = Negligible or zero

26. Source 0038 Mode 1 Slag Unloading at Quenching

Reference: OSFEDCP Page 32
Lead Emission per day = 0.0295 lbs/day
Quenching occurs one hour per day
Therefore, Lead Emissions per hour = .0295 lbs/hr

27. Source 0039 Mode 1 Slag Pot Hauling and Unloading

Reference: OSFEDCP, Chemetco, pages 32
Lead Emissions = 1.3413 lbs/day
Hours of operation = 12 hours
Lead emissions = 1.3413 lbs/day divided by 12 hrs/day
Lead emissions = 0.1118 lbs/hr

28. Source 0040 Mode 1 Solder Separation

Operating Rate = 2.021 tons/hr
Lead Emission Factor = 1.5 lbs/ton from AIRS dross kettle emission per USEPA clearinghouse
Uncontrolled Lead (Pb) Emission = 2.021 tons/metal hour x 1.5 lbs/ton
Uncontrolled Lead (Pb) Emission = 3.0315 lbs/hr
Baghouse control efficiency = 99.0% for lead
Controlled Pb emission = 3.0315 lbs/hr x (1-.99)
Controlled Pb emission = 0.0303 lbs/hr

29. Source 0041 Mode 1 ZNO Roadway Emissions

Reference: OSFEDCP Page 20 & 21
TSP = 17.08 lbs/day
Hours of operation = 22 hours/day
Proposed Control Efficiency = 95%
Lead Content Max = 10%
Controlled Lead Emissions (lbs/hr) = Roadway TSP hours/day x (1-control eff.) x %Pb
Controlled Lead Emissions (lbs/hr) = 17.08 lbs/day x 22 hours/day x (0.05) x 0.1
Controlled Lead Emissions (lbs/hr) = 0.0036

30. Source 0042 Mode 1 Out Door Fines Receiving Unloading

Reference: OSFEDCP page 24
Operating Rate = 22 tons/hr
Lead Content 2.98% per Chemetco

$$E = K\,(.0032)\frac{\frac{(u)}{5}\ \text{exp.}1.3}{\frac{(m)}{2}\ \text{exp.}1.4}$$

where:
u = wind speed of 5.5 mph
m = moisture content of 1%
E = TSP emission factor

$$E = K\,(.0032)\frac{\frac{(5.5)}{5}\ \text{exp.}1.3}{\frac{(0.01)}{2}\ \text{exp.}1.4}$$

E = .0096 lbs/ton of TSP
Uncontrolled TSP = .0096 lbs/ton x 22 tons/hr
Uncontrolled TSP = 0.2112 lbs/hr
Uncontrolled Lead (Pb) = uncont. TSP (lbs/hr) x %Pb
Uncontrolled Lead (Pb) = 0.2112 lbs/hr x 0.0298
Uncontrolled Lead (Pb) = .006 lbs/hr

31. Source 0043 Mode 1 Oldenburg Road-Fugitives

Reference: OSFEDCP, Chemetco, page 7 and 8
TSP = 179.5287 lbs/day Hours of operation = 10 hours
Control efficiency = 95% (Coherex)
Lead Content = 1% per Chemetco
Controlled Lead (Pb) Emission = TSP lbs/day divided by 10 hrs/day x (1-control eff.) x % Pb
Controlled Lead (Pb) Emission = 17.9 lbs/hr x (.10) x .005
Controlled Lead (Pb) Emission = .009 lbs/hr

32. Source 0044 Mode 1 Truck Lot Roadway & Park Area

Reference: OSFEDCP, Chemetco, page 13 and 14
TSP = 189.13 lbs/day
Hours of operation = 10 hours
Control Efficiency = 95% (Coherex)
Lead Content (Max) = 1% per Chemetco
Controlled Lead (Pb) Emission = TSP lbs/day divided by 10 hrs/day x (1-Control Eff.) x % Pb
Controlled Lead (Pb) Emission = 189.13 lbs/day divided by 10 hrs/day x (1-.95) x .01
Controlled Lead (Pb) Emission = 0.0095 lbs/hr

33. Source 45 Mode 1: AAF Stockpile Area

Reference: OSFEDCP, Chemetco, page 22 to 30
TSP = 24.93 lbs/day
Hours of Operation = 10 hours
Control Efficiency = 92%
Lead Content = 10% per Chemetco
Controlled Lead (Pb) Emission = TSP lbs/day divided by Oper. Hrs. x (1-Control Eff.) x % Pb
Controlled Lead (Pb) Emission = 24.93 lbs/day divided by 10 hrs/day x (1-.92) x 0.1
Controlled Lead (Pb) Emission = 0.0199 lbs/hr

34. Source 0046 Mode 1 Paved Truck Scale Road

Reference: OFEDCP, Chemetco, pager 17 & 18
TSP = 20.56 lbs/day
Hours of Operation = 10 hours
Control Efficiency = 95% (Coherex)
Lead Content = 7% per Chemetco
Controlled Lead (Pb) Emission = TSP lbs/day divided by Operating Hours x (1-control Eff.) x % Pb
Controlled Lead (Pb) Emission = 20.56 lbs/day divided by 10 hrs/day x (1-.95) x 0.07
Controlled Lead (Pb) Emission = 0.0072 lbs/hr

35. Source 0047 Mode 1 Chunk Stockpile - Batch Drop Scrap

Reference: OSFEDCP, Chemetco, pages 22 to 30
TSP = 31.754 lbs/day
Hours of Operation = 10
TSP = 3.1574 lbs/hr
Control Efficiency = 78.92%
Lead Content = 7% per Chemetco
Controlled Lead (Pb) Emission = TSP lbs/day Op. Hrs. x (1-control eff.) x % Pb
Controlled Lead (Pb) Emission = 3.1574 lbs/hr x (1-.7892) x .07
Controlled Lead (Pb) Emission = 0.0466 lbs/hr

36. Source 0048 Mode 1 Employee Parking Lot
Reference: OSFEDCP, Chemetco page 19
Controlled Lead Emission = 0.0004 lbs/hr

37. Source 0049 Mode 1 Scrap Yard Traffic

Reference: OSFEDCP, Chemetco, page 22 to 30
TSP = 11.795 lbs/day
Hours of Operation = 10 hours
Control Efficiency -- 95.70%
Lead Content = 7%
Controlled Lead Pb Emission = TSP divided by operating hrs x (1-control eff.) x % Pb
Controlled Lead (Pb) Emission = 11.795 lbs/day divided by 10 hrs/day x (1-.957) x 0.07
Controlled Lead Pb Emission = 0.0035

38. Source 0050 Mode 1 Slag Handling, Stockpile Wind Erosion, and Screening

Reference: OSFEDCP, Chemetco, page 30 to 35
TSP = 3.9313 lbs/hr
Control Efficiency = 75%
Lead Content = 0.72% per Chemetco
Controlled Lead (Pb) Emission = TSP lbs/hr x (1-control eff.) x % Pb
Controlled Lead (Pb) Emission = 3.9313 lbs/hr x (1-.75) x .0072
Controlled Lead (Pb) Emission = 0.0071 lbs/hr

MM:dks/mls/1760v, 1-9

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

Rothblatt Original
Kee
SIPE
Magnuson
Bowyer
Lindsay
COPY

REPLY TO THE ATTENTION OF:

SQ-14J

MEMORANDUM

DATE: MAY 10 1993

SUBJECT: Chemetco Monitors

FROM: Curtis Ross, Acting Chief
Ambient Monitoring Section

TO: Stephen Rothblatt, Chief
Regulation Development Branch (AR-18J)

We have been investigating the status of the lead monitors located near the Chemetco facility and are providing you with a status report on our findings. During our investigation, we obtained the site forms for the sites operated, retrieved data on these sites from the Aerometric Information Retrieval System/Air Quality Subsystem (AIRS/AQS) and held telephone conversations with Mr. Terry Sweitzer with the Illinois Environmental Protection Agency (IEPA). Attached you will find site forms for the four sites which have been operated as well as data listings and summaries from these sites. Figure 1, which is reproduced from the site forms, is shown here to provide an easy reference for the discussions which follow.

Our investigation has revealed the following facts:

- Chemetco is operating three lead monitors under requirements established by the IEPA.
- IEPA did some form of modeling to determine the most desirable areas to place the three monitors and Chemetco has made some efforts to comply with these guidelines.
- Three monitors were established on April 6, 1991 using site ID's 1012 (site 1-N on map), 1013 (site 2-E on map) and 1014 (site 3-S on map). Site 1014 was further north than the intended location due to power supply

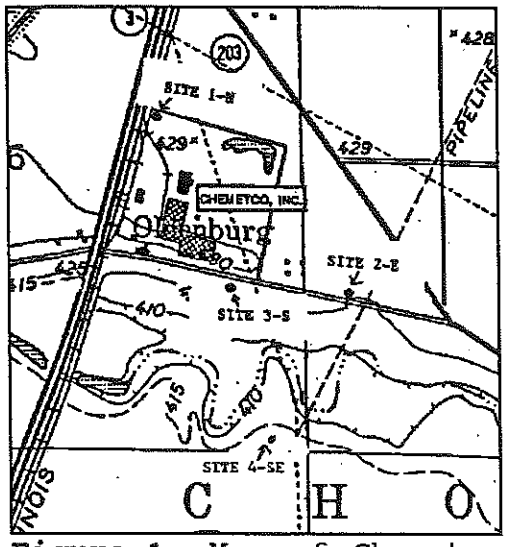


Figure 1 Map of Chemetco Lead Monitors

practicalities but was relocated further south on July 1, 1992 as site 1015 (site 4-SE on map).

- All three monitors are currently located at sites which are on Chemetco property but are at the edge. (The road on the south side of the plant is a private road. Monitors were apparently located on plant property to avoid having to get permission from a third party to locate the monitors.)

- All four of the sites comply with the siting criteria in Appendix E of 40 CFR Part 58. However, the use of plant property creates a question regarding whether or not the monitors are sampling ambient air.

- IEPA, during a site visit on August 12, 1992, observed trucks parked and sprayers operating in such a way as to disrupt data for the monitor at site 1012. These obstructions were not observed during a site visit of July 15, 1992. IEPA protested the presence of the trucks and sprayers and threatened to invalidate any data from the monitor at site 1012 if the obstructions were not removed. The obstructions were removed during the middle of December.

- IEPA is still working with Chemetco to ensure better compliance with siting plans both to ensure representative sampling and to ensure that adequate numbers of samples are collected.

- The monitors at sites 1012 and 1014 both consistently recorded quarterly averages above the standard of 1.5 through the second quarter of 1992. Site 1014 was relocated to site 1015 at the beginning of the third quarter of 1992 and the new site has shown no exceedances. Site 1013 has shown no exceedances during the first seven quarters of operation although several quarters showed readings close to the standard. Data for the third and fourth quarters of 1992 have been called into question by IEPA due to the interferences although no data has been invalidated.

- IEPA has some form of consent decree with Chemetco under which Chemetco is now required to install fugitive dust controls as a result of the high readings. Chemetco has obtained a permit to install these controls but has not yet submitted their plans to IEPA for review.

There are three remaining issues regarding these monitors which may require further investigation. First of all, these monitors are located on plant property which calls into question whether or not the air they are monitoring is "ambient." We have interpreted "ambient" as meaning an area to which the public has access whether or not it is private property. However, it is unclear which of these monitoring sites the public would have access to. Further investigation will be needed to answer this question conclusively, but preliminary indications are that sites 1013, 1014 and 1015 are ambient air sites but site 1012 is not. The second question

revolves around quality assurance of the monitors. Attempts to retrieve precision and accuracy data for the monitors along with the air quality data from AIRS/AQS have been unsuccessful. It would appear that no precision and accuracy data for these monitors has been submitted to AIRS/AQS. We need to check further with the State to examine the quality assurance plans for these monitors. An analysis of the quality assurance data is necessary to determine whether or not the monitors were operating within acceptable tolerances. Finally, two of the monitors have failed to meet data completeness requirements during several quarters. Ordinarily, lead monitors operating every 6th day are required to collect twelve samples in order to have a valid quarterly average. Several of the apparent violations occurred during quarters in which the monitor collected only 10 or 11 samples. However, we should still be able to treat most of these as valid exceedances since the quarterly average would still exceed 1.5 $\mu g/m^3$ even if we assume the readings from the uncollected samples are 0.

If you have any further questions regarding the monitoring at Chemetco, please contact Mr. Will Damico of my staff at 353-8207.

Attachments

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
AMBIENT AIR MONITORING SITE EVALUATION FORM

AIRS Site Code
County: 119 Site: 1012

Date Established: 91/04/06
Date Terminated: __/__/__

City Code: 00000 Name: RURAL MADISON COUNTY Population:

Site Name: 1-N ; CHEMETCO

Site Address: ROUTE # 3

AQCR Code: 070 Population: 2,423,778 Census Tract No.: 4019.02

MSA Code: 7040 Name: ST.LOUIS, MO. - IL.

Urbanized Area Code: 7040 Name: ST.LOUIS, MO. - IL.

County Name: MADISON Township Name: CHOUTEAU

Support Agency Code: 029 Name: CHEMETCO

SAROAD Codes: Area: 4680 Site: 012 Agency: J Project: 02

USGS Topographic Map Name: WOOD RIVER, IL. - MO. Site Number: 6

Scale: 1:24,000 Date: 1955(PR'68 & '74)

UTM's Zone: 15 Easting (km): 751 915 Northing (km): 4298.318

Longitude: 90-05-57 Latitude: 38-47-57 Elevation (ft): (m): 131

Direction from CBD: NA

Distance from CBD (km):

Location Setting Code: 3
- Center City - 1
- Suburban - 2
- Rural - 3

Land Use Code: 3
- Residential - 1
- Commercial - 2
- Industrial - 3
- Agricultural - 4
- Forest - 5
- Mobile - 7

Brief description of the site setting and environment:

Site is located at the NW corner of the plant's boundaries. The plant is surrounded by farmland, a state park and residences. The nearest slag pile area is 83 meters to the east and the furnance building is 207 meters NW. Between the monitors and slag piles are two semi-trailor beds and a sprinkler system. This location has a monitor for sampling TSP/lead and one for quality assurance. UTM coordinates were measured by the USGS Topo map.

Attach a separate sketch of the environment within 0.5 km of the site showing any significant sources, structures, etc.

Attach a sheet of labeled and dated photographs, including: the probe(s), 8 compass directions and any significant local influence.

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1012

MONITORING INFORMATION

Parameter Name:	LEAD
Parameter Code:	12128
Parameter Occurrence Code:	1
Monitor Type: (Unknown - 0, NAMS - 1, SLAMS - 2, Other (SPMS) - 3, Secured - 9)	4
Type Effective Date:	91/04/06
Analyzing Lab: (IEPA - 001, Cook - 003)	029
Collecting Lab:	029
Reporting Organization:	029
Reporting Org. Eff. Date:	91/04/06
Project Classification: (Population - 01, Source - 02, Background - 03, Special - 05)	02
Dominant Source: (POINT or AREA or MOBILE)	POINT
Measurement Scale: (Micro - 1, Middle - 2, Neighborhood - 3, Urban - 4, Regional - 5)	2
Monitoring Objective: (Maximum - 1, Population - 2)	1
Date Reference Meth. Used:	91/04/06
Date Siting Criteria Met:	91/04/06

PM-10 REQUIREMENTS

Monitoring Area Code:
Cook Co. - 1701 Not Grp. I - 1799
Madison Co. - 1702
Oglesby - 1709

Required Sampling Frequency: Effective Date: __/__/__

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1012

STATIONARY SOURCES THAT MAY INFLUENCE THE SITE

Name of Source/ Location and Address	Dir. from Site	Dist. from Site	Pollu-tant	Emissions (tons/yr) Actual	Potential
CHEMETCO ROUTE 3 & OLDENBURG RD. HARTFORD	S	0.2 KM	TSP PB	567 78	2321 341
CLARK OIL & REFINING CORP. HAWTHORNE AVE HARTFORD	N	3.8 KM	TSP	167	243
SHELL OIL CO. WOOD RIVER MGF COMPLEX SA-11A AND ROUTE 111 ROXANA	NE	4.5 KM	TSP	1674	2125

Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1012

MOBILE SOURCES THAT MAY INFLUENCE THE SITE

Name of Roadway:	ROUTE 3
Roadway Type: (Arterial - 1 Major St. - 4; Expressway - 2 Through St. - 5; Freeway - 3 Local St. - 6)	1
Dist. of Roadway From probe (m)	50
Average Daily Traffic	25000
Composition of Roadway	CONCRETE
No. Traffic Lns/Curbs (y/n)?	4 / N
Average Vehicle Speed	55
One or Two Way Traffic	2
# Park. Lns./Used for Traffic?	0 / N
Is Dust Reentrained?	N

AREA SOURCES THAT MAY INFLUENCE THE SITE

Type of Source	Direction	Distance	Pollutants
RAILROAD	NW	24 M.	TSP

TOPOGRAPHY OR OBSTRUCTIONS THAT MAY INFLUENCE WIND FLOW AT THE SITE

General Topography Within 2 Miles of the Site: SMOOTH
(SMOOTH or ROLLING or ROUGH)

Topographic Features or Obstructions That May Influence The Site:

Type	Size	Direction	Distance
SEMI-TRAILER BEDS	4 M. HIGH	E,SE,S,SW	8 M.
SPRINKLER SYSTEM	5 M. HIGH	E,SE,S	8 M. FROM SPRA EDGE

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1012

SAMPLE SYSTEM CONFIGURATION

Parameter: 12128

Probe or Manifold: PROBE

Inlet Height Above Ground (m): 2.4

Dist. From Supporting Structure
Vertical (m): 1.1

Horizontal (m):

Attach a separate sheet showing the location on the roof of probes, manifolds, monitors, wind systems, etc.

METEOROLOGICAL SYSTEM DESIGN

Parameters Monitored:				
Height Above Ground (m):				
Ht. Above Supporting Structure (m):				
Type of Support:				

Most Recent Alignment Date:

Attach separate sketch indicating necessary alignment information.

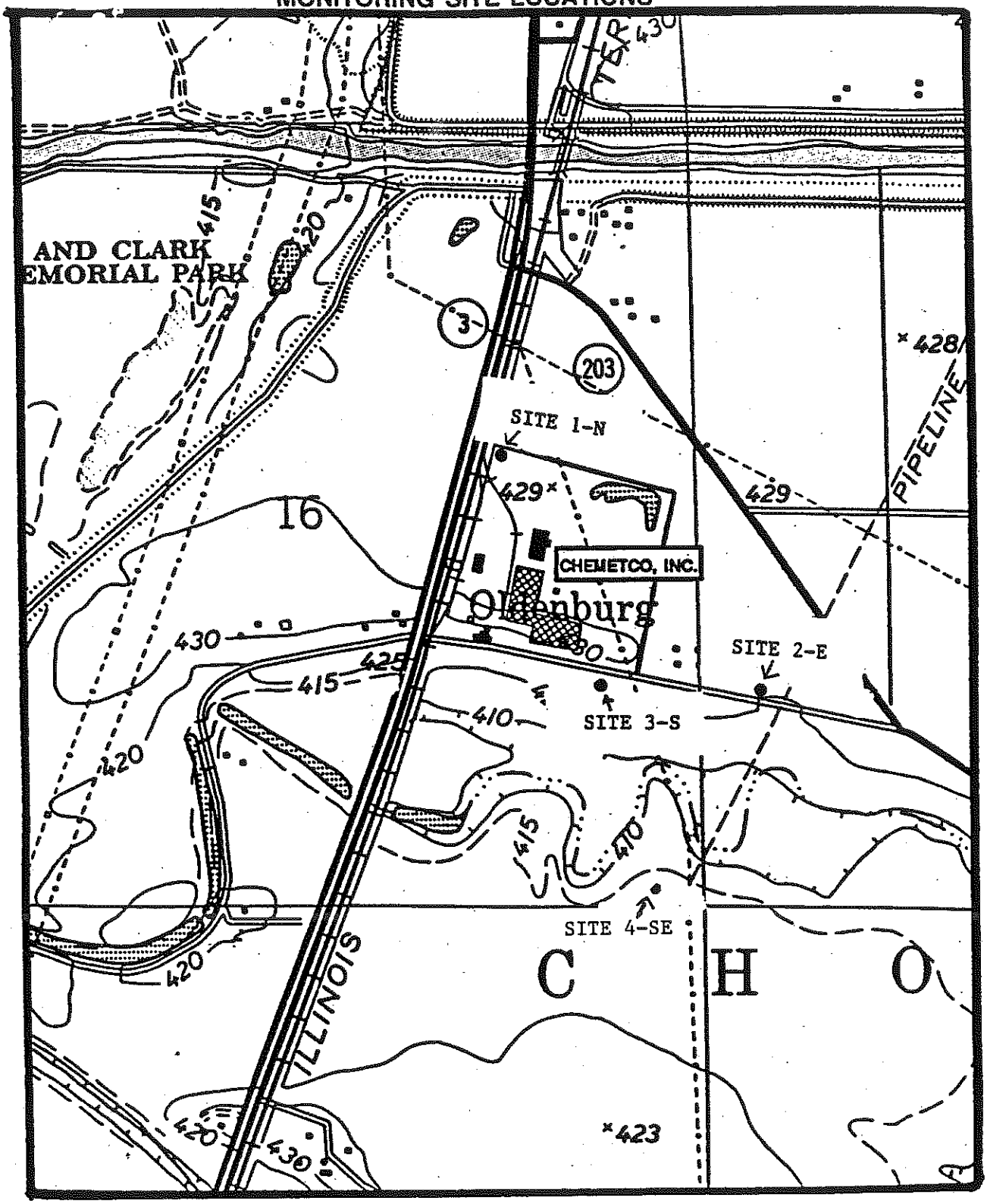
MONITORING EQUIPMENT

Parameter	Manufacturer	Model No.	Detection Principle	Sampling Date Initial	Final
LEAD	GMW	2300	HI-VOL	91/04/06	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__

For additional parameters use additional copies of this page.
Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

FIGURE 1
MONITORING SITE LOCATIONS



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
AMBIENT AIR MONITORING SITE EVALUATION FORM

AIRS Site Code
County: 119 Site: 1013

Date Established: 91/04/06
Date Terminated: __/__/__

City Code: 00000 Name: RURAL MADISON COUNTY Population:

Site Name: 2-E ; CHEMETCO

Site Address: ROUTE # 3

AQCR Code: 070 Population: 2,423,778 Census Tract No.: 4019.02

MSA Code: 7040 Name: ST.LOUIS, MO. - IL.

Urbanized Area Code: 7040 Name: ST.LOUIS, MO. - IL.

County Name: MADISON Township Name: CHOUTEAU

Support Agency Code: 029 Name: CHEMETCO

SAROAD Codes: Area: 4680 Site: 013 Agency: J Project: 02

USGS Topographic Map Name: WOOD RIVER, IL. - MO. Site Number: 6

Scale: 1:24,000 Date: 1955(PR'68 & '74)

UTM's Zone: 15 Easting (km): 752.506 Northing (km): 4297.892

Longitude: 90-05-34 Latitude: 38-47-43 Elevation (ft): (m): 131

Direction from CBD: NA

Distance from CBD (km):

Location Setting Code: 3
- Center City - 1
- Suburban - 2
- Rural - 3

Land Use Code: 3
- Residential - 1
- Commercial - 2
- Industrial - 3
- Agricultural - 4
- Forest - 5
- Mobile - 7

Brief description of the site setting and environment:

Site is at a position 279 meters E from the SE corner of the plant's fen and 36 meters N of Oldenburg Road. The site is surrounded by farmland a residences. The monitor is 237 meters to the SE of the slag pile and 20 meters E from the furnance building. It is 237 meters from the Old Alto Road. The Oldenburg Road between Route 3 and the Old Alton Road is the plant's private road. UTM coordinates were measured by the USGS Topo ma

Attach a separate sketch of the environment within 0.5 km of the site showing any significant sources, structures, etc.

Attach a sheet of labeled and dated photographs, including: the probe(s), 8 compass directions and any significant local influence.

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1013

MONITORING INFORMATION

Parameter Name:	LEAD
Parameter Code:	12128
Parameter Occurrence Code:	1
Monitor Type: (Unknown - 0, NAMS - 1, SLAMS - 2, Other (SPMS) - 3, Secured - 9)	4
Type Effective Date:	91/04/06
Analyzing Lab: (IEPA - 001, Cook - 003)	029
Collecting Lab:	029
Reporting Organization:	029
Reporting Org. Eff. Date:	91/04/06
Project Classification: (Population - 01, Source - 02, Background - 03, Special - 05)	02
Dominant Source: (POINT or AREA or MOBILE)	POINT
Measurement Scale: (Micro - 1, Middle - 2, Neighborhood - 3, Urban - 4, Regional - 5)	2
Monitoring Objective: (Maximum - 1, Population - 2)	1
Date Reference Meth. Used:	91/04/06
Date Siting Criteria Met:	91/04/06

PM-10 REQUIREMENTS

Monitoring Area Code:
Cook Co. - 1701 Not Grp. I - 1799
Madison Co. - 1702
Oglesby - 1709

Required Sampling Frequency: Effective Date: __/__/__

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1013

STATIONARY SOURCES THAT MAY INFLUENCE THE SITE

Name of Source/ Location and Address	Dir. from Site	Dist. from Site	Pollu-tant	Emissions (tons/yr) Actual	Potential
CHEMETCO ROUTE 3 & OLDENBURG RD. HARTFORD	E	0.5 KM	TSP PB	567 78	2321 341
CLARK OIL & REFINING CORP. HAWTHORNE AVE HARTFORD	N	4.0 KM	TSP	167	243
SHELL OIL CO. WOOD RIVER MGF COMPLEX SA-11A AND ROUTE 111 ROXANA	N	4.7 KM	TSP	1674	2125

Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1013

MOBILE SOURCES THAT MAY INFLUENCE THE SITE

Name of Roadway:	OLD ALTON ROAD	OLDENBURG ROAD	ROUTE 203
Roadway Type: (Arterial - 1 Major St. - 4; Expressway - 2 Through St. - 5; Freeway - 3 Local St. - 6)	6	6	4
Dist. of Roadway From probe (m)	237	36	322
Average Daily Traffic	< 100	< 100	1600
Composition of Roadway	CONCRETE	GRAVEL	ASPHALT
No. Traffic Lns/Curbs (y/n)?	2 / N	1 / N	2 / N
Average Vehicle Speed	55	20	55
One or Two Way Traffic	2	2	2
# Park. Lns./Used for Traffic?	0 / N	NA	0 / N
Is Dust Reentrained?	N	Y	N

AREA SOURCES THAT MAY INFLUENCE THE SITE

Type of Source	Direction	Distance	Pollutants

TOPOGRAPHY OR OBSTRUCTIONS THAT MAY INFLUENCE WIND FLOW AT THE SITE

General Topography Within 2 Miles of the Site: **SMOOTH**
(SMOOTH or ROLLING or ROUGH)

Topographic Features or Obstructions That May Influence The Site:

Type	Size	Direction	Distance

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1013

SAMPLE SYSTEM CONFIGURATION

Parameter: 12128

Probe or Manifold: PROBE

Inlet Height Above Ground (m): 2.3

Dist. From Supporting Structure
Vertical (m): 1.1

Horizontal (m):

Attach a separate sheet showing the location on the roof of probes, manifolds, monitors, wind systems, etc.

METEOROLOGICAL SYSTEM DESIGN

Parameters Monitored:				
Height Above Ground (m):				
Ht. Above Supporting Structure (m):				
Type of Support:				

Most Recent Alignment Date:

Attach separate sketch indicating necessary alignment information.

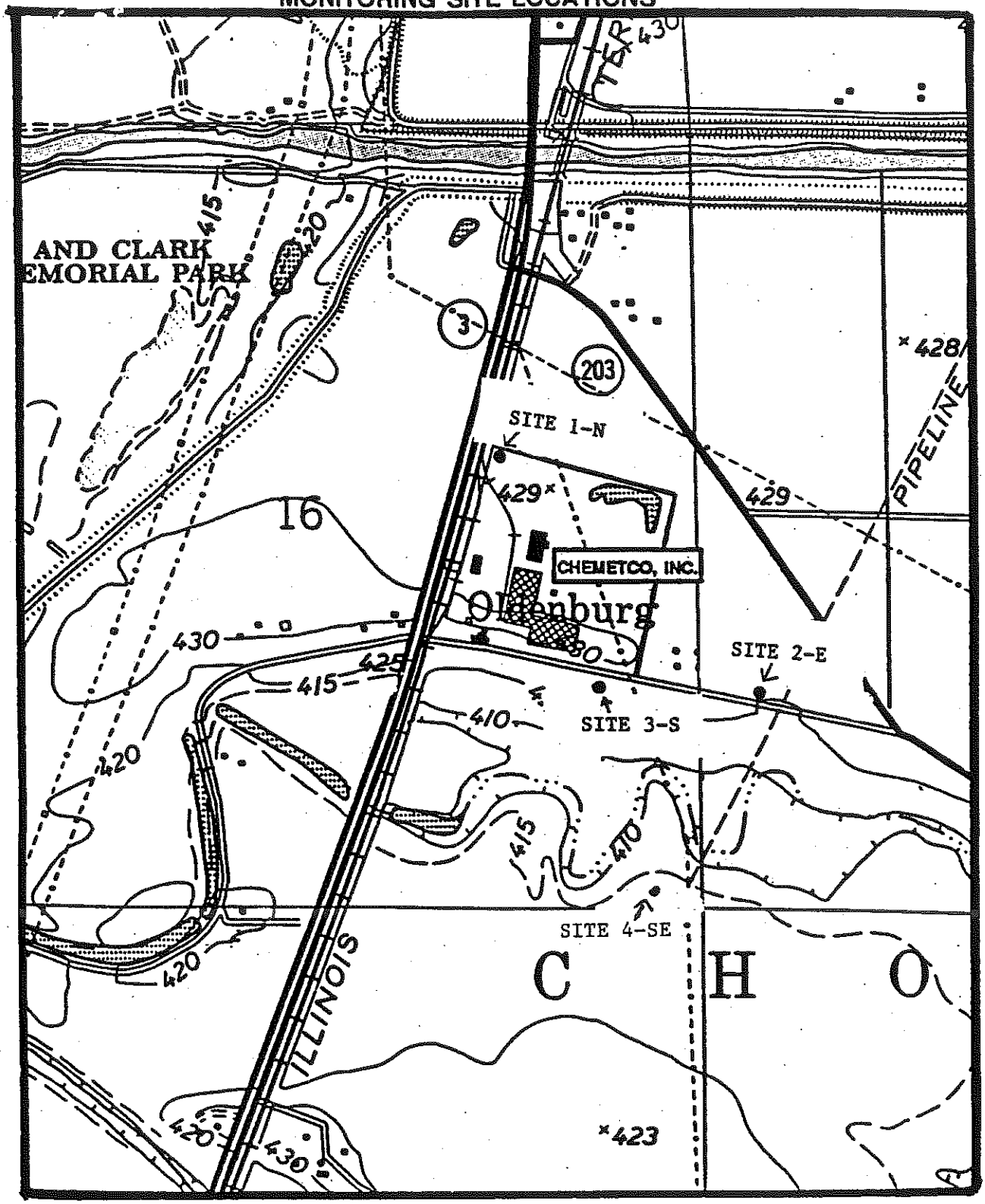
MONITORING EQUIPMENT

Parameter	Manufacturer	Model No.	Detection Principle	Sampling Date Initial	Final
LEAD	GMW	2300	HI-VOL	91/04/06	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__

For additional parameters use additional copies of this page.
Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

FIGURE 1
MONITORING SITE LOCATIONS



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
AMBIENT AIR MONITORING SITE EVALUATION FORM

AIRS Site Code
County: 119 Site: 1014

Date Established: 91/04/06
Date Terminated: __/__/__

City Code: 00000 Name: RURAL MADISON COUNTY Population:

Site Name: 3-S ; CHEMETCO

Site Address: ROUTE # 3

AQCR Code: 070 Population: 2,423,778 Census Tract No.: 4019.02

MSA Code: 7040 Name: ST.LOUIS, MO. - IL.

Urbanized Area Code: 7040 Name: ST.LOUIS, MO. - IL.

County Name: MADISON Township Name: CHOUTEAU

Support Agency Code: 029 Name: CHEMETCO

SAROAD Codes: Area: 4680 Site: 014 Agency: J Project: 02

USGS Topographic Map Name: WOOD RIVER, IL. - MO. Site Number: 6

Scale: 1:24,000 Date: 1955(PR'68 & '74)

UTM's Zone: 15 Easting (km): 752.104 Northing (km): 4297.873

Longitude: 90-05-50 Latitude: 38-47-43 Elevation (ft): (m): 131

Direction from CBD: NA

Distance from CBD (km):

Location Setting Code: 3
- Center City - 1
- Suburban - 2
- Rural - 3

Land Use Code: 3
- Residential - 1
- Commercial - 2
- Industrial - 3
- Agricultural - 4
- Forest - 5
- Mobile - 7

Brief description of the site setting and environment:

Site is at a position 89 meters SW from the SE corner of the plant's fenc and 36 meters S of Oldenburg Road. The monitor is 213 meters S of the slag area and 178 meters SE of the furance building. It is 332 meters from Route 3. The site is surrounded farmland and residences. The Oldenburg Road between Route 3 and the Old Alton Road is the plant's private road. UTM coordinates were measured by the USGS Topo Map.

Attach a separate sketch of the environment within 0.5 km of the site showing any significant sources, structures, etc.

Attach a sheet of labeled and dated photographs, including: the probe(s), 8 compass directions and any significant local influence.

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1014

MONITORING INFORMATION

Parameter Name:	LEAD
Parameter Code:	12128
Parameter Occurrence Code:	1
Monitor Type: (Unknown - 0, NAMS - 1, SLAMS - 2, Other (SPMS) - 3, Secured - 9)	4
Type Effective Date:	91/04/06
Analyzing Lab: (IEPA - 001, Cook - 003)	029
Collecting Lab:	029
Reporting Organization:	029
Reporting Org. Eff. Date:	91/04/06
Project Classification: (Population - 01, Source - 02, Background - 03, Special - 05)	02
Dominant Source: (POINT or AREA or MOBILE)	POINT
Measurement Scale: (Micro - 1, Middle - 2, Neighborhood - 3, Urban - 4, Regional - 5)	2
Monitoring Objective: (Maximum - 1, Population - 2)	1
Date Reference Meth. Used:	91/04/06
Date Siting Criteria Met:	91/04/06

PM-10 REQUIREMENTS

Monitoring Area Code:
Cook Co. - 1701 Not Grp. I - 1799
Madison Co. - 1702
Oglesby - 1709

Required Sampling Frequency: Effective Date: __/__/__

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1014

STATIONARY SOURCES THAT MAY INFLUENCE THE SITE

Name of Source/ Location and Address	Dir. from Site	Dist. from Site	Pollu-tant	Emissions (tons/yr) Actual	Potential
CHEMETCO ROUTE 3 & OLDENBURG RD. HARTFORD	NW	0.6 KM	TSP PB	567 78	2321 341
CLARK OIL & REFINING CORP. HAWTHORNE AVE HARTFORD	N	4.3 KM	TSP	167	243
SHELL OIL CO. WOOD RIVER MGF COMPLEX SA-11A AND ROUTE 111 ROXANA	N	5.0 KM	TSP	1674	2125

Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1014

MOBILE SOURCES THAT MAY INFLUENCE THE SITE

Name of Roadway:	ROUTE 3	OLDENBURG ROAD		
Roadway Type: (Arterial - 1 Major St. - 4; Expressway - 2 Through St. - 5; Freeway - 3 Local St. - 6)	1	6		
Dist. of Roadway From probe (m)	332	36		
Average Daily Traffic	25000	< 100		
Composition of Roadway	CONCRETE	GRAVEL		
No. Traffic Lns/Curbs (y/n)?	4 / N	1 / N		
Average Vehicle Speed	55	20		
One or Two Way Traffic	2	2		
# Park. Lns./Used for Traffic?	0 / N	NA		
Is Dust Reentrained?	N	Y		

AREA SOURCES THAT MAY INFLUENCE THE SITE

Type of Source	Direction	Distance	Pollutant
RAILROAD	NW	24 M.	TSP

TOPOGRAPHY OR OBSTRUCTIONS THAT MAY INFLUENCE WIND FLOW AT THE SITE

General Topography Within 2 Miles of the Site: SMOOTH
(SMOOTH or ROLLING or ROUGH)

Topographic Features or Obstructions That May Influence The Site:

Type	Size	Direction	Distanc

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1014

SAMPLE SYSTEM CONFIGURATION

Parameter: 12128

Probe or Manifold: PROBE

Inlet Height Above Ground (m): 2.4

Dist. From Supporting Structure
Vertical (m): 1.1

Horizontal (m):

Attach a separate sheet showing the location on the roof of probes, manifolds, monitors, wind systems, etc.

METEOROLOGICAL SYSTEM DESIGN

Parameters Monitored:				
Height Above Ground (m):				
Ht. Above Supporting Structure (m):				
Type of Support:				

Most Recent Alignment Date:

Attach separate sketch indicating necessary alignment information.

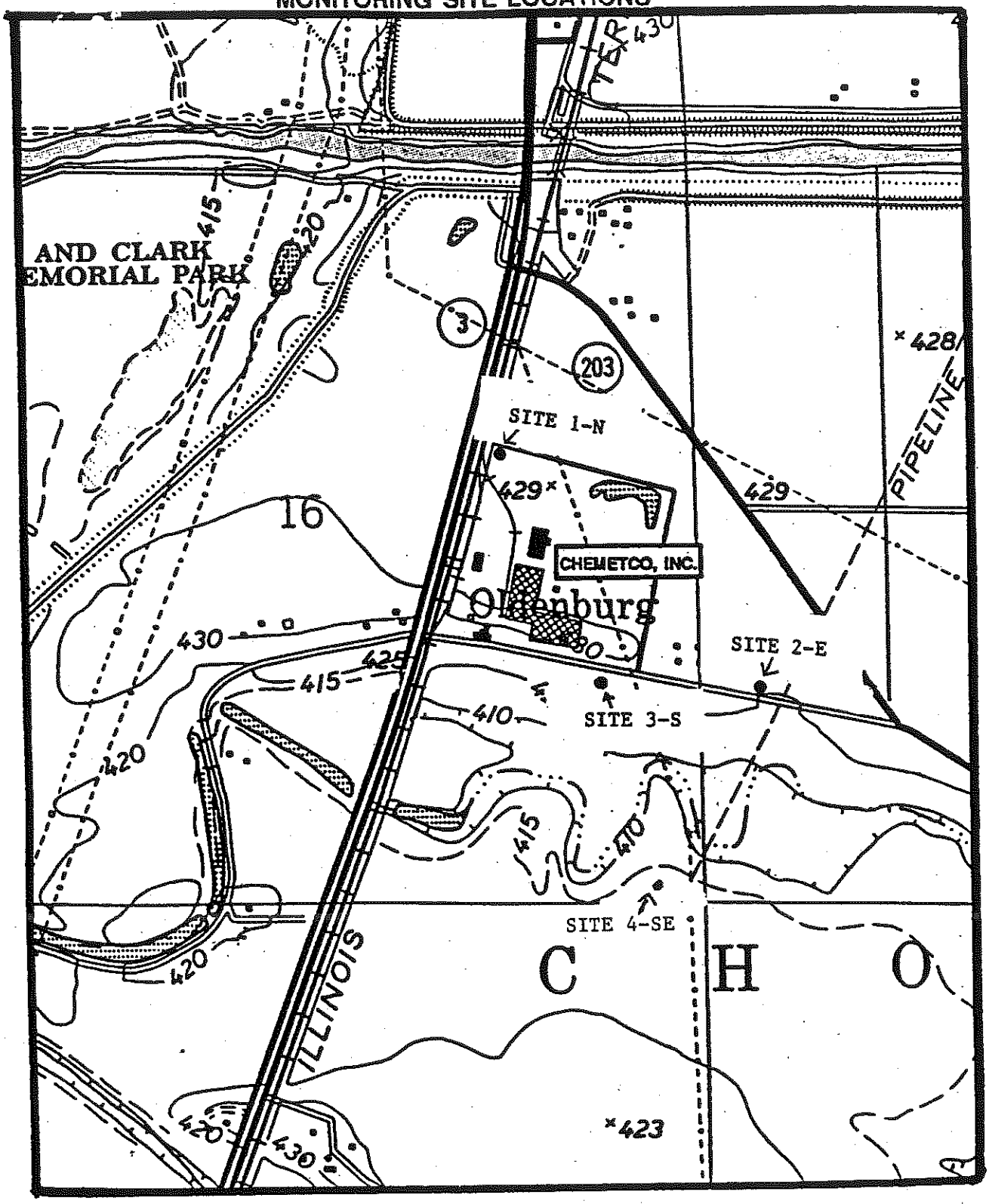
MONITORING EQUIPMENT

Parameter	Manufacturer	Model No.	Detection Principle	Sampling Date Initial	Final
LEAD	GMW	2300	HI-VOL	91/04/06	92/06/30
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__
				__/__/__	__/__/__

For additional parameters use additional copies of this page.
Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

FIGURE 1
MONITORING SITE LOCATIONS



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
AMBIENT AIR MONITORING SITE EVALUATION FORM

AIRS Site Code
County: 119 Site: 1015

Date Established: 92/07/01
Date Terminated: __/__/__

City Code: 00000 Name: RURAL MADISON COUNTY Population:

Site Name: 4-SE ; CHEMETCO

Site Address: ROUTE # 3

AQCR Code: 070 Population: 2,423,778 Census Tract No.: 4019.02

MSA Code: 7040 Name: ST.LOUIS, MO. - IL.

Urbanized Area Code: 7040 Name: ST.LOUIS, MO. - IL.

County Name: MADISON Township Name: CHOUTEAU

Support Agency Code: 029 Name: CHEMETCO

SAROAD Codes: Area: 4680 Site: 014 Agency: J Project: 02

USGS Topographic Map Name: WOOD RIVER, IL. - MO. Site Number: 9

Scale: 1:24,000 Date: 1955(PR'68 & '74)

UTM's Zone: 15 Easting (km): 752.268 Northing (km): 4297.470

Longitude: 90-05-44 Latitude: 38-47-31 Elevation (ft): (m): 131

Direction from CBD: NA

Distance from CBD (km):

Location Setting Code: 3
- Center City - 1
- Suburban - 2
- Rural - 3

Land Use Code: 3
- Residential - 1
- Commercial - 2
- Industrial - 3
- Agricultural - 4
- Forest - 5
- Mobile - 7

Brief description of the site setting and environment:

Site is 429 meters S of Oldenburg Road. The monitor is 664 meters SE of the slag area and 616 meters SE of the furance building. It is 632 mete from Route 3. The site is surrounded by farmland from SE to SW and by trees from NW to E. The Oldenburg Road between Route 3 and the Old Alto Road is the plant's private road. UTM coordinates were measured by the USGS Topo Map.

Attach a separate sketch of the environment within 0.5 km of the site showing any significant sources, structures, etc.

Attach a sheet of labeled and dated photographs, including: the probe(s), 8 compass directions and any significant local influence.

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1015

MONITORING INFORMATION

Parameter Name:	LEAD
Parameter Code:	12128
Parameter Occurrence Code:	1
Monitor Type: (Unknown - 0, NAMS - 1, SLAMS - 2, Other (SPMS) - 3, Secured - 9)	4
Type Effective Date:	92/07/01
Analyzing Lab: IEPA - 001, Cook - 003	029
Collecting Lab:	029
Reporting Organization:	029
Reporting Org. Eff. Date:	92/07/01
Project Classification: (Population - 01, Source - 02, Background - 03, Special - 05)	02
Dominant Source: POINT or AREA or MOBILE	POINT
Measurement Scale: (Micro - 1, Middle - 2, Neighborhood - 3, Urban - 4, Regional - 5)	2
Monitoring Objective: (Maximum - 1, Population - 2)	1
Date Reference Meth. Used:	92/07/01
Date Siting Criteria Met:	92/07/01

PM-10 REQUIREMENTS

Monitoring Area Code:
Cook Co. - 1701 Not Grp. I - 1799
Madison Co. - 1702
Oglesby - 1709

Required Sampling Frequency: Effective Date: __/__/__

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1015

STATIONARY SOURCES THAT MAY INFLUENCE THE SITE

Name of Source/ Location and Address	Dir. from Site	Dist. from Site	Pollu-tant	Emissions (tons/yr) Actual	Potential
CHEMETCO ROUTE 3 & OLDENBURG RD. HARTFORD	NW	1.1 KM	TSP PB	567 78	2321 341
CLARK OIL & REFINING CORP. HAWTHORNE AVE HARTFORD	N	4.8 KM	TSP	167	243
SHELL OIL CO. WOOD RIVER MGF COMPLEX SA-11A AND ROUTE 111 ROXANA	N	5.5 KM	TSP	1674	2125

Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1015

MOBILE SOURCES THAT MAY INFLUENCE THE SITE

Name of Roadway:	ROUTE 3	OLDENBURG ROAD	PRIVATE LANE	
Roadway Type: (Arterial - 1 Major St. - 4; Expressway - 2 Through St. - 5; Freeway - 3 Local St. - 6)	1	6	6	
Dist. of Roadway From probe (m)	634	429	71	
Average Daily Traffic	25000	< 100	< 100	
Composition of Roadway	CONCRETE	GRAVEL	GRAVEL	
No. Traffic Lns/Curbs (y/n)?	4 / N	1 / N	1 / N	
Average Vehicle Speed	55	20	20	
One or Two Way Traffic	2	2	2	
# Park. Lns./Used for Traffic?	0 / N	NA	NA	
Is Dust Reentrained?	N	Y	Y	

AREA SOURCES THAT MAY INFLUENCE THE SITE

Type of Source	Direction	Distance	Pollutant

TOPOGRAPHY OR OBSTRUCTIONS THAT MAY INFLUENCE WIND FLOW AT THE SITE

General Topography Within 2 Miles of the Site: SMOOTH
(SMOOTH or ROLLING or ROUGH)

Topographic Features or Obstructions That May Influence The Site:

Type	Size	Direction	Distanc

Form Completed By: MARLA LAYMON Date: 03/19/93

AIRS Site Code
County: 119 Site: 1015

SAMPLE SYSTEM CONFIGURATION

Parameter: 12128

Probe or Manifold: PROBE

Inlet Height Above Ground (m): 2.4

Dist. From Supporting Structure
Vertical (m): 1.1

Horizontal (m):

Attach a separate sheet showing the location on the roof of probes, manifolds, monitors, wind systems, etc.

METEOROLOGICAL SYSTEM DESIGN

Parameters Monitored:	____	____	____	____
Height Above Ground (m):	__	__	__	__
Ht. Above Supporting Structure (m):	__	__	__	__
Type of Support:	____	____	____	____

Most Recent Alignment Date:

Attach separate sketch indicating necessary alignment information.

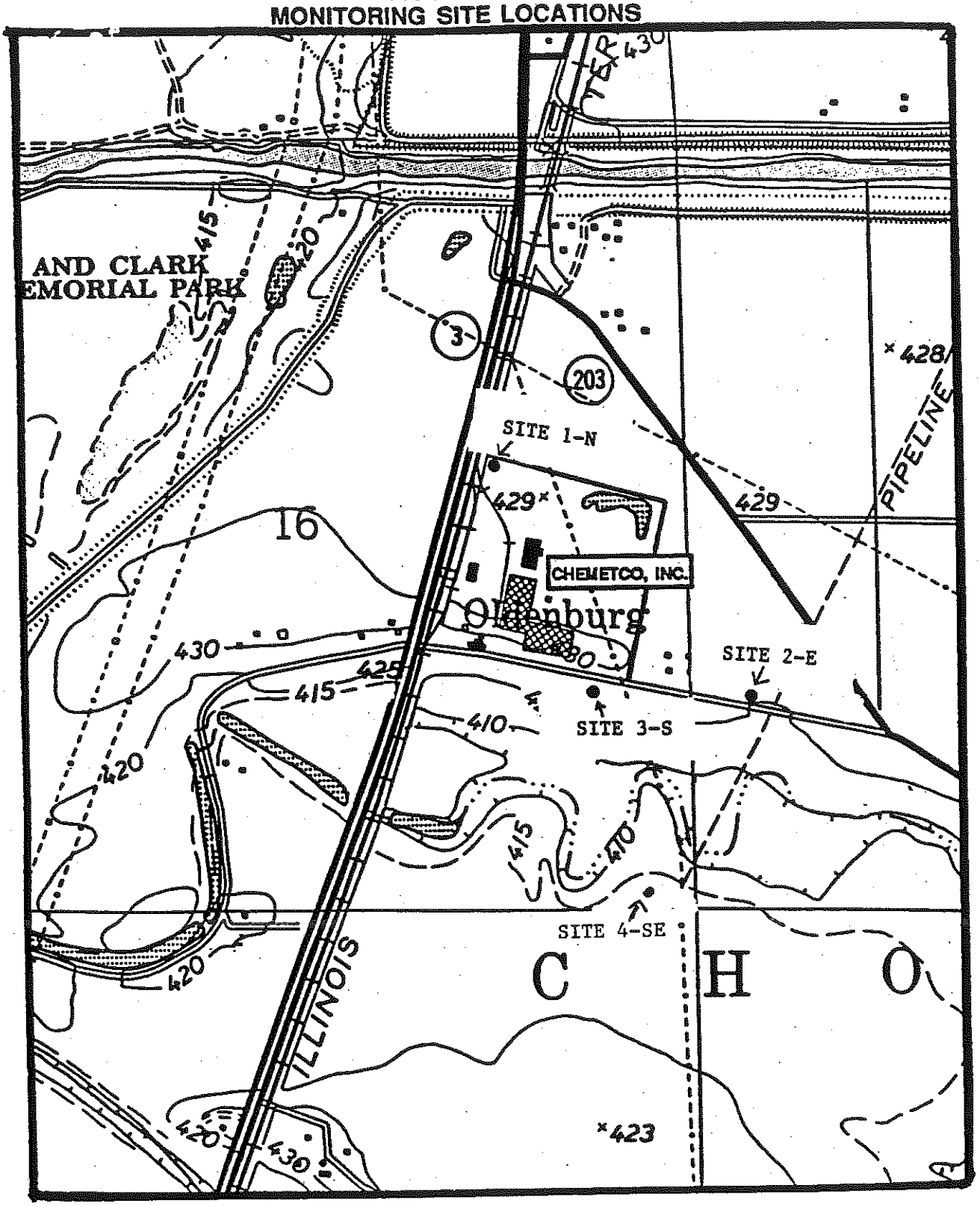
MONITORING EQUIPMENT

Parameter	Manufacturer	Model No.	Detection Principle	Sampling Date Initial	Final
LEAD	GMW	2300	HI-VOL	92/07/01	/ /
_____	_____	_____	_____	__/__/__	__/__/__
_____	_____	_____	_____	__/__/__	__/__/__
_____	_____	_____	_____	__/__/__	__/__/__
_____	_____	_____	_____	__/__/__	__/__/__
_____	_____	_____	_____	__/__/__	__/__/__
_____	_____	_____	_____	__/__/__	__/__/__

For additional parameters use additional copies of this page.
Comments:

Form Completed By: MARLA LAYMON Date: 03/19/93

FIGURE 1
MONITORING SITE LOCATIONS



LEAD (12128) ILLINOIS UNITS: 001 UG/CU METER (25 C)

SITE ID	P O C	M T	CITY	COUNTY	ADDRESS	REP YR	ORG	#OBS	----QUARTERLY ARITH MEANS---- 1ST	2ND	3RD	4TH	MEANS >1.5	MAX VALUES 1ST	2ND	METH
17-119-1012	1	4		MADISON CO	SITE 1 - N, CHEMET	91	029	34		5.56	4.22?	6.27?	1	25.23	20.86	092
17-119-1012	1	4		MADISON CO	SITE 1 - N, CHEMET	92	029	50	1.32	6.24?	1.11	1.23	0	43.93	12.79	092
17-119-1013	1	4		MADISON CO	SITE 2 - E, CHEMET	91	029	39		.84	.71	1.44	0	8.25	3.27	092
17-119-1013	1	4		MADISON CO	SITE 2 - E, CHEMET	92	029	58	1.23	1.35	.79	1.17	0	9.15	7.69	092
17-119-1014	1	4		MADISON CO	SITE 3 - S, CHEMET	91	029	37		1.08	2.70?	4.40	1	35.67	15.09	092
17-119-1014	1	4		MADISON CO	SITE 3 - S, CHEMET	92	029	26	11.77	6.92			2	32.88	28.29	092
17-119-1015	1	4		MADISON CO	CHEMETCO SITE 4-SE	92	029	23			.85?	.30	0	4.69	1.33	092

? INDICATES THAT THE MEAN DOES NOT SATISFY SUMMARY CRITERIA

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
QUARTERLY FREQUENCY DISTRIBUTION

STATE (17): ILLINOIS

SITE-ID: 17-119-1012
COUNTY (119): MADISON CO
CITY (00000): NOT IN A CITY
SITE ADDRESS: SITE 1 - N, CHEMETCO
SUPPORT AGENCY (029): CHEMETCO
SITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL

LATITUDE: 38:47:57 N
LONGITUDE: 090:05:57 W
UTM ZONE: 15
UTM-NORTHING: 4298318
UTM-EASTING: 00751915
ELEVATION-MSL: 00131 M

POLLUTANT NAME	MON-TPE	REPT-ORG	METHOD OF COLLECTION AND ANALYSIS									INTERVAL	STANDARD UNITS			
POLL/METH/INT/UNTS/POC																
	EXC PCT	NBR	#EXCURS		MIN	MIN	PERCENTILES						MAX	2ND	ARIT	GEOM	GEOM
YR-QT	EVT OBS	OBS	PRI	SEC	DET	OBS	10	30	50	70	90	95	99	OBS	MAX	MEAN	MEAN	STD D
LEAD (TSP)		4			029	HI-VOL					ATOMIC ABSORPTION			24 HOURS		UG/CU METER (25 C)		
12128-092-7-001-1																		
91-02	13	1	1		.00	.34	.35	1.06	1.44	7.60	18.09	25.23	25.23	25.23	18.09	5.557	2.170	4.31
91-03	11	0	0		.00	.16	.24	.49	2.65	5.28	10.12	13.27	13.27	13.27	10.12	4.218*	1.727*	5.16
91-04	10	0	0		.00	.11	.11	.32	1.33	8.71	16.42	20.86	20.86	20.86	16.42	6.265*	1.836*	7.31
92-01	14	0	0		.00	.10	.15	.22	.29	1.47	3.02	7.49	7.49	7.49	3.02	1.319	.533	3.88
92-02	11	0	0		.00	.01	.18	.29	.81	3.06	12.79	43.93	43.93	43.93	12.79	6.239*	.930*	10.32
92-03	13	0	0		.00	.06	.09	.09	.27	.68	3.49	7.54	7.54	7.54	3.49	1.112	.347	4.39
92-04	12	0	0		.00	.18	.29	.36	.58	1.24	2.60	4.74	4.74	4.74	2.60	1.233	.794	2.64

<AN ASTERISK (*) WITH A MEAN VALUE INDICATES THE MEAN DID NOT MEET SUMMARY CRITERIA>

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
QUARTERLY FREQUENCY DISTRIBUTION

STATE (17): ILLINOIS

SITE-ID: 17-119-1013
COUNTY (119): MADISON CO
CITY (00000): NOT IN A CITY
SITE ADDRESS: SITE 2 - E, CHEMETCO
SUPPORT AGENCY (029): CHEMETCO
SITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL

LATITUDE: 38:47:43 N
LONGITUDE: 090:05:34 W
UTM ZONE: 15
UTM-NORTHING: 4297892
UTM-EASTING: 00752506
ELEVATION-MSL: 00131 M

POLLUTANT NAME / POLL/METH/INT/UNTS/POC	MON-TPE	REPT-ORG	METHOD OF COLLECTION AND ANALYSIS									INTERVAL	STANDARD UNITS			
	EXC PCT	NBR	#EXCURS		MIN	MIN	PERCENTILES						MAX	2ND	ARIT	GEOM	GEOM
YR-QT	EVT	OBS	OBS	PRI SEC	DET	OBS	10	30	50	70	90	95	99	OBS	MAX	MEAN	MEAN	STD D
LEAD (TSP)		4		029	HI-VOL				ATOMIC ABSORPTION				24 HOURS	UG/CU METER (25 C)				
12128-092-7-001-1																		
91-02	13	0	0	.00	.00	.05	.12	.22	1.36	3.09	3.27	3.27	3.27	3.09	.841	.238	8.53
91-03	13	0	0	.00	.07	.10	.24	.39	.78	1.80	2.69	2.69	2.69	1.80	.708	.438	2.88
91-04	13	0	0	.00	.11	.11	.12	.45	1.22	3.26	8.25	8.25	8.25	3.26	1.444	.545	4.22
92-01	15	0	0	.00	.01	.05	.15	.32	2.01	3.43	3.98	3.98	3.98	3.43	1.231	.409	6.16
92-02	15	0	0	.00	.01	.01	.02	.09	.35	3.96	9.15	9.15	9.15	3.96	1.347	.133	11.36
92-03	13	0	0	.00	.03	.25	.38	.52	.65	1.97	3.11	3.11	3.11	1.97	.786	.500	2.99
92-04	15	0	0	.00	.06	.06	.12	.27	.56	6.18	7.69	7.69	7.69	6.18	1.165	.314	4.52

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
QUARTERLY FREQUENCY DISTRIBUTION

STATE (17): ILLINOIS

SITE-ID: 17-119-1014
COUNTY (119): MADISON CO
CITY (00000): NOT IN A CITY
SITE ADDRESS: SITE 3 - S, CHEMETCO
SUPPORT AGENCY (029): CHEMETCO
SITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL

LATITUDE: 38:47:43 N
LONGITUDE: 090:05:50 W
UTM ZONE: 15
UTM-NORTHING: 4297873
UTM-EASTING: 00752104
ELEVATION-MSL: 00131 M

POLLUTANT NAME / POLL/METH/INT/UNTS/POC	MON-TPE	REPT-ORG	METHOD OF COLLECTION AND ANALYSIS			INTERVAL	STANDARD UNITS									
	EXC PCT	NBR	#EXCURS	MIN	MIN	PERCENTILES							MAX	2ND	ARIT	GEOM	GEO
YR-QT	EVT OBS	OBS	PRI SEC	DET	OBS	10	30	50	70	90	95	99	OBS	MAX	MEAN	MEAN	STD
LEAD (TSP)		4		029	HI-VOL				ATOMIC ABSORPTION				24 HOURS		UG/CU METER (25 C)		
12128-092-7-001-1																	
91-02	14	0	0	.00	.02	.03	.15	.18	.52	3.99	7.04	7.04	7.04	3.99	1.079	.273	5.9
91-03	10	0	0	.00	.09	.09	.34	.39	1.11	6.38	15.09	15.09	15.09	6.38	2.696*	.857*	4.7
91-04	13	1	1	.00	.04	.11	.23	.29	1.74	12.02	35.67	35.67	35.67	12.02	4.402	.676	7.0
92-01	12	1	1	.00	.01	.01	.63	5.56	22.96	27.00	28.29	28.29	28.29	27.00	11.769	1.991	20.1
92-02	14	1	1	.00	.04	.04	.20	.30	1.72	24.65	32.88	32.88	32.88	24.65	6.916	.803	10.8

<AN ASTERISK (*) WITH A MEAN VALUE INDICATES THE MEAN DID NOT MEET SUMMARY CRITERIA>

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
QUARTERLY FREQUENCY DISTRIBUTION

STATE (17): ILLINOIS

SITE-ID: 17-119-1015
COUNTY (119): MADISON CO
CITY (00000): NOT IN A CITY
SITE ADDRESS: CHEMETCO SITE 4-SE
SUPPORT AGENCY (029): CHEMETCO
SITE COMMENTS: CHEMETCO LEAD NETWORK

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL

LATITUDE: 38:47:31 N
LONGITUDE: 090:05:44 W
UTM ZONE: 15
UTM-NORTHING: 4297470
UTM-EASTING: 00752268
ELEVATION-MSL: 00125 M

POLLUTANT NAME / POLL/METH/INT/UNTS/POC	MON-TPE	REPT-ORG	METHOD OF COLLECTION AND ANALYSIS										INTERVAL	STANDARD UNITS			
	EXC PCT	NBR	#EXCURS		MIN	MIN	PERCENTILES						MAX	2ND	ARIT	GEOM	GEOM
YR-QT	EVT	OBS	OBS	PRI SEC	DET	OBS	10	30	50	70	90	95	99	OBS	MAX	MEAN	MEAN	STD D
LEAD (TSP)		4		029	HI-VOL		ATOMIC ABSORPTION						24 HOURS	UG/CU METER (25 C)			
12128-092-7-001-1																	
92-03	11	0	0		.00	.12	.14	.15	.33	.85	1.18	4.69	4.69	4.69	1.18	.852*	.415*	3.25
92-04	12	0	0		.00	.02	.02	.06	.10	.22	.83	1.33	1.33	1.33	.83	.297	.133	3.85

<AN ASTERISK (*) WITH A MEAN VALUE INDICATES THE MEAN DID NOT MEET SUMMARY CRITERIA>

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIRS QUALITY SUBSYSTEM
DATA COMPLETENESS REPORT

INDUSTR MONITORS REPORTING DATA
FROM 01/01/92 THRU 12/31/92
STATE (17) ILLINOIS

SITE ID / CITY NAME / ADDRESS	POLL	POC	INTERVAL	METHOD	OBSERVATIONS (NUMBER / PERCENT) JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	# OF 7-DAY GAPS
17-119-1012	PB	1	7	092	5	3	6	5	3	3	4	5	4	4	3	5	50	0
NOT IN A CITY					100	60	120	100	60	60	80	100	80	80	60	100	84#	
SITE 1 - N, CHEMETCO																		
17-119-1013	PB	1	7	092	6	4	5	5	5	5	5	5	3	5	5	5	58	0
NOT IN A CITY					120	80	100	100	100	100	100	100	60	100	100	100	97#	
SITE 2 - E, CHEMETCO																		
17-119-1014	PB	1	7	092	4	3	5	5	5	4	0	0	0	0	0	0	26	0
NOT IN A CITY					80	60	100	100	100	80	0	0	0	0	0	0	87	
SITE 3 - S, CHEMETCO																		
17-119-1015	PB	1	7	092	0	0	0	0	0	0	3	4	4	5	2	5	23	0
NOT IN A CITY					0	0	0	0	0	0	60	80	80	100	40	100	77	
CHEMETCO SITE 4-SE																		

7-DAY GAP INDICATOR (*) CONSIDER FOR SUMMARY CRITERIA (#) PARTIAL MONTH VALID (&)

STANDARDS REPORT - LEAD (12128)
DAILY VALUES
STATE 17 ILLINOIS

ITE-ID: 17-119-1012 POC: 1
OUNTY (119): MADISON CO
ITY (00000): NOT IN A CITY
ITE ADDRESS: SITE 1 - N, CHEMETCO
UPPORT AGENCY (029): CHEMETCO
ITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE
ONITOR COMMENTS:
EPORTING ORGANIZATION (029): CHEMETCO
ONITOR TYPE (4): INDUSTRIAL DATA
OLLECTION AND ANALYSIS METHOD (092): HI-VOL ATOMIC ABSORPTION

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL
MONITORING OBJECTIVE (1): MAXIMUM CONCENTRATION

LATITUDE: 38:47:57 N
LONGITUDE: 090:05:57 W
UTM ZONE: 15
UTM-NORTHING: 4298318
UTM-EASTING: 00751915
ELEVATION-MSL: 00131 M
UNITS (001): UG/CU MET
PROBE HEIGHT: 2 M

		JAN 1991	FEB 1991	MAR 1991	APR 1991	MAY 1991	JUN 1991	JUL 1991	AUG 1991	SEP 1991	OCT 1991	NOV 1991	DEC 1991
	1	T	F	F	M	W	S	M	T	S	T	F	S
	2	W	S	S	T	T	S	T	F	M	W .39	S	M
	3	T	S	S	W	F	M	W	S	T 9.78	T	S	T
	4	F	M	M	T	S	T	T .25	S	W	F	M	W
D	5	S	T	T	F	S .34	W	F	M	T	S	T	T
	6	S	W	W 9.11	S .49	M	T	S	T	F	S	W	F
A	7	M	T	T	S	T	F	S	W	S	M	T	S
	8	T	F	F	M	W	S	M	T	S	T .32	F	S
Y	9	W	S	S	T	T	S	T	F 5.28	M 1.33	W	S	M
	10	T	S	S	W	F	M	W .16	S	T	T	S	T
	11	F	M	M	T	S 1.10	T	T	S	W	F	M	W
O	12	S	T	T 1.44	F	S	W	F	M	T	S	T	T
	13	S	W	W	S	M	T	S	T	F	S	W	F
F	14	M	T	T	S	T	F	S	W	S	M 2.09 $	T .18	S
	15	T	F	F	M	W	S	M	T 8.58	S	T	F	S
	16	W	S	S	T	T	S	T 1.33 $	F	M	W	S	M
M	17	T	S	S	W	F	M 2.65	W	S	T	T	S	T
	18	F	M	M 1.44	T 1.08	S	T	T	S	W	F	M	W
O	19	S	T	T	F	S	W	F	M	T	S	T	T
	20	S	W	W	S	M	T	S	T	F	S	W 4.55	F
N	21	M	T	T	S	T	F	S	W 1.01 $	S 8.71	M	T	S
	22	T	F	F	M	W	S	M 1.34	T	S	T	F	S
T	23	W	S	S	T	T .35	S .24	T	F	M	W	S	M
	24	T	S	S 1.06	W 2.52 $	F	M	W	S	T	T	S	T
H	25	F	M	M	T	S	T	T	S	W	F	M	W
	26	S	T	T	F	S	W	F	M	T	S 1.64 $	T	T
	27	S	W	W	S	M	T	S	T 4.02	F .11	S	W	F
	28	M	T	T	S	T	F	S	W	S	M	T	S
	29	T		F	M	W 4.91	S .49	M	T	S	T	F	S
	30	W		S 7.60	T 1.81 $	T	S	T	F	M	W	S	M
	31	T		S		F		W	S		T		T
UMBER						13			11			10	
AXIMUM						2.52 $			1.33 $			2.09 $	
RITHMETIC MEAN						5.56 *			4.22			6.27	

OTAL SAMPLES = 34

INDICATES MEAN EXCEEDED THE PRIMARY STANDARD OF 1.55 UG/CU METER (25 C)

ULTIPLY VALUES MARKED WITH "$" BY 010

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
STANDARDS REPORT - LEAD (12128)
DAILY VALUES
STATE 17 ILLINOIS

ITE-ID: 17-119-1012 POC: 1
OUNTY (119): MADISON CO
ITY (00000): NOT IN A CITY
ITE ADDRESS: SITE 1 - N, CHEMETCO
UPPORT AGENCY (029): CHEMETCO
ITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE
ONITOR COMMENTS:
EPORTING ORGANIZATION (029): CHEMETCO
ONITOR TYPE (4): INDUSTRIAL DATA
OLLECTION AND ANALYSIS METHOD (092): HI-VOL ATOMIC ABSORPTION

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL
MONITORING OBJECTIVE (1): MAXIMUM CONCENTRATION

LATITUDE: 38:47:57 N
LONGITUDE: 090:05:57 W
UTM ZONE: 15
UTM-NORTHING: 4298318
UTM-EASTING: 00751915
ELEVATION-MSL: 00131 M
UNITS (001): UG/CU MET
PROBE HEIGHT: 2 M

		JAN 1992		FEB 1992		MAR 1992		APR 1992		MAY 1992		JUN 1992		JUL 1992		AUG 1992		SEP 1992		OCT 1992		NOV 1992		DEC 1992	
	1		W		S	2.53	S		W		F		M		W		S		T		T		S		T
	2		T		S		M		T		S		T		T		S		W		F	.94	M	.29	W
	3		F		M		T		F		S		W		F		M	.09	T	.36	S		T		T
	4		S		T		W		S		M		T		S	.09	T		F		S		W		F
D	5		S		W		T		*S		T	.18	F	.53	S		W		S		M		T		S
	6		M	.15	T		F	1.28	$ M		W		S		M		T		S		T		F		S
A	7	3.02	T		F	.40	S		T		T		S		T		F		M		W		S		M
	8		W		S		S		W		F		M		W		S		T		T		S	1.83	T
Y	9		T		S		M		T		S		T		T		S	7.54	W	1.14	F		M		W
	10		F		M		T		F		S		W		F	.81	M		T		S		T		T
	11		S		T		W		*S		M	.18	T	3.49	S		T		F		S		W		F
O	12		S	.19	W		T	.29	S		T		F		S		W		S		M		T		S
	13	.25	M		T	1.47	F		M		W		S		M		T		S		T		F		S
F	14		T		F		S		T		T		S		T		F		M		W	.53	S	1.24	M
	15		W		S		S		W		F		M		W		S		T		T		S		T
	16		T		S		M		T		S		T		T	.09	S		W		F		M		W
M	17		F		M		T		F		*S		W	.12	F		M		T		S		T		T
	18		S		T		W	5.47	S	.42	M		T		S		T		F		S		W		F
O	19	7.49	S		W	.10	T		S		T		F		S		W		S		M		T		S
	20		M		T		F		M		W		S		M		T		S		T		F	.58	S
N	21		T		F		S		T		T		S		T		F	.47	M	2.60	W		S		M
	22		W		S		S		W		F		M		W	.27	S		T		T		S		T
T	23		T		S		M		T		*S		*T		T		S		W		F		M		W
	24		F	.31	M		T	4.39	$ F	.01	S		W		F		M		T		S		T		T
H	25	1.87	S		T	.29	W		S		M		T		S		T		F		S		W		F
	26		S		W		T		S		T		F		S		W		S		M	.18	T	4.74	S
	27		M		T		F		M		W		S		M		T	.06	S	.36	T		F		S
	28		T		F		S		T		T		S		T	.21	F		M		W		S		M
	29		W		S		S		W		F	1.49	M	.68	W		S		T		T		S		T
	30		T		S		M	3.06	T	.81	S		T		T		S		W		F		M		W
	31	.22	F		M	.17	T				S				F		M				S				T
UMBER						14						11						13						12	
AXIMUM						7.49						4.39	$					7.54						4.74	
RITHMETIC MEAN						1.32						6.24						1.11						1.23	

OTAL SAMPLES = 50

ULTIPLY VALUES MARKED WITH "$" BY 010

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
STANDARDS REPORT - LEAD (12128)
DAILY VALUES
STATE 17 ILLINOIS

ITE-ID: 17-119-1013 POC: 1
OUNTY (119): MADISON CO
ITY (00000): NOT IN A CITY
ITE ADDRESS: SITE 2 - E, CHEMETCO
UPPORT AGENCY (029): CHEMETCO
ITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE
ONITOR COMMENTS:
EPORTING ORGANIZATION (029): CHEMETCO
ONITOR TYPE (4): INDUSTRIAL DATA
OLLECTION AND ANALYSIS METHOD (092): HI-VOL ATOMIC ABSORPTION

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL
MONITORING OBJECTIVE (1): MAXIMUM CONCENTRATION

LATITUDE: 38:47:43 N
LONGITUDE: 090:05:34 W
UTM ZONE: 15
UTM-NORTHING: 4297892
UTM-EASTING: 00752506
ELEVATION-MSL: 00131 M
UNITS (001): UG/CU MET
PROBE HEIGHT: 2 M

		JAN 1991	FEB 1991	MAR 1991	APR 1991	MAY 1991	JUN 1991	JUL 1991	AUG 1991	SEP 1991	OCT 1991	NOV 1991	DEC 1991
	1	T	F	F	M	W	S	M	T	S	T	F	S
	2	W	S	S	T	T	S	T	F	M	W	8.25 S	3.26 M
	3	T	S	S	W	F	M	W	S	.81 T	.32 T	S	T
	4	F	M	M	T	S	T	T	S	W	F	M	W
D	5	S	T	T	F	S	.12 W	.39 F	M	T	S	T	T
	6	S	W	W	S	3.27 M	T	S	T	F	S	W	F
A	7	M	T	T	S	T	F	S	W	S	M	T	S
	8	T	F	F	M	W	S	M	T	S	T	.12 F	S
Y	9	W	S	S	T	T	S	T	F	.07 M	.45 W	S	M
	10	T	S	S	W	F	M	W	.10 S	T	T	S	T
	11	F	M	M	T	S	.15 T	.31 T	S	W	F	M	W
O	12	S	T	T	.50 F	.05 S	W	F	M	T	S	T	T
	13	S	W	W	S	M	T	S	T	F	S	W	F
F	14	M	T	T	S	T	F	S	W	S	M	1.22 T	S
	15	T	F	F	M	W	S	M	T	.18 S	3.09 T	F	S
	16	W	S	S	T	T	S	T	.36 F	M	W	S	M
M	17	T	S	S	W	F	.22 M	.78 W	S	T	T	S	T
	18	F	M	M	.18 T	S	T	T	S	W	F	M	W
O	19	S	T	T	F	S	W	F	M	T	S	T	T
	20	S	W	W	S	M	T	S	T	F	S	.11 W	.72 F
N	21	M	T	T	S	T	F	S	W	S	.11 M	T	S
	22	T	F	F	M	W	S	M	.76 T	S	T	F	S
T	23	W	S	S	T	T	.08 S	2.69 T	F	M	W	S	M
	24	T	S	S	3.09 W	1.67 F	M	W	S	T	T	S	T
H	25	F	M	M	T	S	T	T	S	W	F	M	W
	26	S	T	T	F	S	W	F	M	T	S	.68 T	.33 T
	27	S	W	W	S	M	T	S	T	.24 F	.11 S	W	F
	28	M	T	T	S	T	F	S	.72 W	S	M	T	S
	29	T		F	M	W	.24 S	1.80 M	T	S	T	F	S
	30	W		S	.00 T	1.36 T	S	T	F	M	W	S	M
	31	T		S		F		W	S		T		T
UMBER							13			13			13
AXIMUM							3.27			2.69			8.25
RITHMETIC MEAN							.84			.71			1.44

OTAL SAMPLES = 39

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
STANDARDS REPORT - LEAD (12128)
DAILY VALUES
STATE 17 ILLINOIS

ITE-ID: 17-119-1013 POC: 1
OUNTY (119): MADISON CO
ITY (00000): NOT IN A CITY
ITE ADDRESS: SITE 2 - E, CHEMETCO
UPPORT AGENCY (029): CHEMETCO
ITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE
ONITOR COMMENTS:
EPORTING ORGANIZATION (029): CHEMETCO
ONITOR TYPE (4): INDUSTRIAL DATA
OLLECTION AND ANALYSIS METHOD (092): HI-VOL ATOMIC ABSORPTION

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL

MONITORING OBJECTIVE (1): MAXIMUM CONCENTRATION

LATITUDE: 38:47:43 N
LONGITUDE: 090:05:34 W
UTM ZONE: 15
UTM-NORTHING: 4297892
UTM-EASTING: 00752506
ELEVATION-MSL: 00131 M
UNITS (001): UG/CU MET
PROBE HEIGHT: 2 M

		JAN 1992		FEB 1992		MAR 1992		APR 1992		MAY 1992		JUN 1992		JUL 1992		AUG 1992		SEP 1992		OCT 1992		NOV 1992		DEC 1992	
	1	.08	W		S	.15	S		W		F		M		W		S		T		T		S		T
	2		T		S		M		T		S		T		T		S		W		F	.06	M	7.69	W
	3		F		M		T		F		S		W		F		M	.44	T	.12	S		T		T
	4		S		T		W		S		M		T		S	.38	T		F		S		W		F
D	5		S		W		T		S		T	3.85	F	.61	S		W		S		M		T		S
	6		M	2.77	T		F	.04	M	.12	W		S		M		T		S		T		F		S
A	7	.01	T		F	3.43	S		T		T		S		T		F		M		W		S		M
	8		W		S		S		W		F		M		W		S		T		T	.17	S	.37	T
Y	9		T		S		M		T		S		T		T		S	1.97	W	.56	F		M		W
	10		F		M		T		F		S		W		F	.65	M		T		S		T		T
	11		S		T		W		S		M	.02	T	.89	S		T		F		S		W		F
O	12		S	.05	W		T	.01	S	2.41	T		F		S		W		S		M		T		S
	13	.26	M		T	.32	F		M		W		S		M		T		S		T		F		S
F	14		T		F		S		T		T		S		T		F		M		W	.29	S	.19	M
	15		W		S		S		W		F		M		W		S		T	.65	T		S		T
	16		T		S		M		T		S		T		T	.25	S		W		F		M		W
M	17		F		M		T		F		S	.12	W	3.11	F		M		T		S		T		T
	18		S	.11	T		W	.01	S	.06	M		T		S		T		F		S		W		F
O	19	.18	S		W	1.41	T		S		T		F		S		W		S		M		T		S
	20		M		T		F		M		W		S		M		T		S		T	.06	F	.27	S
N	21		T		F		S		T		T		S		T		F	.40	M	.08	W		S		M
	22		W		S		S		W		F		M		W	.03	S		T		T		S		T
T	23		T		S		M		T		S	.35	T	.34	T		S		W		F		M		W
	24		F	.43	M		T	3.96	F	.01	S		W		F		M		T		S		T		T
H	25	3.98	S		T	2.01	W		S		M		T		S		T		F		S		W		F
	26		S		W		T		S		T		F		S		W		S		M	6.18	T	.07	S
	27		M		T		F		M		W		S		M		T		S	.72	T		F		S
	28		T		F		S		T		T		S		T	.63	F		M		W		S		M
	29		W		S		S		W		F	.09	M	.52	W		S		T		T		S		T
	30		T				M	.01	T	9.15	S		T		T		S		W		F		M		W
	31	3.27	F				T				S				F		M				S				T
UMBER						15						15						13						15	
AXIMUM						3.98						9.15						3.11						7.69	
RITHMETIC MEAN						1.23						1.35						.79						1.17	

OTAL SAMPLES = 58

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
STANDARDS REPORT - LEAD (12128)
DAILY VALUES
STATE 17 ILLINOIS

ITE-ID: 17-119-1014 POC: 1
OUNTY (119): MADISON CO
ITY (00000): NOT IN A CITY
ITE ADDRESS: SITE 3 - S, CHEMETCO
UPPORT AGENCY (029): CHEMETCO
ITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE
ONITOR COMMENTS:
EPORTING ORGANIZATION (029): CHEMETCO
ONITOR TYPE (4): INDUSTRIAL DATA
OLLECTION AND ANALYSIS METHOD (092): HI-VOL ATOMIC ABSORPTION

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL
MONITORING OBJECTIVE (1): MAXIMUM CONCENTRATION

LATITUDE: 38:47:43 N
LONGITUDE: 090:05:50 W
UTM ZONE: 15
UTM-NORTHING: 4297873
UTM-EASTING: 00752104
ELEVATION-MSL: 00131 M
UNITS (001): UG/CU MET
PROBE HEIGHT: 2 M

		JAN 1991	FEB 1991	MAR 1991	APR 1991	MAY 1991	JUN 1991	JUL 1991	AUG 1991	SEP 1991	OCT 1991	NOV 1991	DEC 1991
	1	T	F	F	M	W	S	M	T	S	T	F	S
	2	W	S	S	T	T	S	T	F	M	W	.78 S	5.07 M
	3	T	S	S	W	F	M	W	S	T	.29 T	S	T
	4	F	M	M	T	S	T	T	S	W	F	M	W
D	5	S	T	T	F	S	.18 W	.29 F	M	T	S	T	T
	6	S	W	W	S	1.05 M	T	S	T	F	S	W	F
A	7	M	T	T	S	T	F	S	W	S	M	T	S
	8	T	F	F	M	W	S	M	T	S	T	1.74 F	S
Y	9	W	S	S	T	T	S	T	F	M	.25 W	S	M
	10	T	S	S	W	F	M	W	1.11 S	T	T	S	T
	11	F	M	M	T	S	.04 T	T	S	W	F	M	W
O	12	S	T	T	.02 F	.05 S	W	F	M	T	S	T	T
	13	S	W	W	S	M	T	S	T	F	S	W	F
F	14	M	T	T	S	T	F	S	W	S	M	.11 T	S
	15	T	F	F	M	W	S	M	T	.79 S	3.57 $ T	F	S
	16	W	S	S	T	T	S	T	.34 F	M	W	S	M
M	17	T	S	S	W	F	1.11 M	2.14 W	S	T	T	S	T
	18	F	M	M	.38 T	.40 S	T	T	S	W	F	M	W
O	19	S	T	T	F	S	W	F	M	T	S	T	T
	20	S	W	W	S	M	T	S	T	F	S	1.20 $ W	.59 F
N	21	M	T	T	S	T	F	S	W	.09 S	.23 M	T	S
	22	T	F	F	M	W	S	M	6.38 T	S	T	F	S
T	23	W	S	S	T	T	.15 S	1.51 $ T	F	M	W	S	M
	24	T	S	S	3.99 W	.03 F	M	W	S	T	T	S	T
H	25	F	M	M	T	S	T	T	S	W	F	M	W
	26	S	T	T	F	S	W	F	M	T	S	.21 T	.23 T
	27	S	W	W	S	M	T	S	T	.34 F	.04 S	W	F
	28	M	T	T	S	T	F	S	.39 W	S	M	T	S
	29	T		F	M	W	.52 S	M	T	S	T	F	S
	30	W		S	7.04 T	.15 T	S	T	F	M	W	S	M
	31	T		S		F		W	S		T		T
UMBER							14			10			13
AXIMUM							7.04			1.51 $			3.57 $
RITHMETIC MEAN							1.08			2.70			4.40 *

OTAL SAMPLES = 37

INDICATES MEAN EXCEEDED THE PRIMARY STANDARD OF 1.55 UG/CU METER (25 C)

ULTIPLY VALUES MARKED WITH "$" BY 010

STANDARDS REPORT - LEAD (12128)
DAILY VALUES
STATE 17 ILLINOIS

ITE-ID: 17-119-1014 POC: 1
OUNTY (119): MADISON CO
ITY (00000): NOT IN A CITY
ITE ADDRESS: SITE 3 - S, CHEMETCO
UPPORT AGENCY (029): CHEMETCO
ITE COMMENTS: CHEMETCO INDUSTRIAL LEAD SITE
ONITOR COMMENTS:
EPORTING ORGANIZATION (029): CHEMETCO
ONITOR TYPE (4): INDUSTRIAL DATA
OLLECTION AND ANALYSIS METHOD (092): HI-VOL ATOMIC ABSORPTION

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL
MONITORING OBJECTIVE (1): MAXIMUM CONCENTRATION

LATITUDE: 38:47:43 N
LONGITUDE: 090:05:50 W
UTM ZONE: 15
UTM-NORTHING: 4297873
UTM-EASTING: 00752104
ELEVATION-MSL: 00131 M
UNITS (001): UG/CU MET
PROBE HEIGHT: 2 M

		JAN 1992		FEB 1992		MAR 1992		APR 1992		MAY 1992		JUN 1992		JUL 1992	AUG 1992	SEP 1992	OCT 1992	NOV 1992	DEC 1992
	1	.01	W		S	1.14	S		W		F		M	W	S	T	T	S	T
	2		T		S		M		T		S		T	T	S	W	F	M	W
	3		F		M		T		F		S		W	F	M	T	S	T	T
	4		S		T		W		S		M		T	S	T	F	S	W	F
D	5		S		W		T		S		T	2.47 $	F	S	W	S	M	T	S
	6		M	2.29 $	T		F	.25	M	1.72	W		S	M	T	S	T	F	S
A	7	.01	T		F	5.56	S		T		T		S	T	F	M	W	S	M
	8		W		S		S		W		F		M	W	S	T	T	S	T
Y	9		T		S		M		T		S		T	T	S	W	F	M	W
	10		F		M		T		F		S		W	F	M	T	S	T	T
	11		S		T		W		S		M	.30	T	S	T	F	S	W	F
O	12		S	.15	W		T	.04	S	1.08 $	T		F	S	W	S	M	T	S
	13		M		T	.63	F		M		W		S	M	T	S	T	F	S
F	14		T		F		S		T		T		S	T	F	M	W	S	M
	15		W		S		S		W		F		M	W	S	T	T	S	T
	16		T		S		M		T		S		T	T	S	W	F	M	W
M	17		F		M		T		F		S	.19	W	F	M	T	S	T	T
	18		S		T		W	.09	S	.20	M		T	S	T	F	S	W	F
O	19		S		W		T		S		T		F	S	W	S	M	T	S
	20		M		T		F		M		W		S	M	T	S	T	F	S
N	21		T		F		S		T		T		S	T	F	M	W	S	M
	22		W		S		S		W		F		M	W	S	T	T	S	T
T	23		T		S		M		T		S	.70	T	T	S	W	F	M	W
	24		F	2.70 $	M		T	3.29 $	F	.44	S		W	F	M	T	S	T	T
H	25	2.30 $	S		T	2.65 $	W		S		M		T	S	T	F	S	W	F
	26		S		W		T		S		T		F	S	W	S	M	T	S
	27		M		T		F		M		W		S	M	T	S	T	F	S
	28		T		F		S		T		T		S	T	F	M	W	S	M
	29		W		S		S		W		F		M	W	S	T	T	S	T
	30		T				M	.04	T	2.45 $	S		T	T	S	W	F	M	W
	31	6.08	F			2.83 $	T				S			F	M		S		T

UMBER	12		14
AXIMUM	2.83 $		3.29 $
RITHMETIC MEAN	1.18 *		6.92 *

OTAL SAMPLES = 26

INDICATES MEAN EXCEEDED THE PRIMARY STANDARD OF 1.55 UG/CU METER (25 C)

ULTIPLY VALUES MARKED WITH "$" BY 010

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
STANDARDS REPORT - LEAD (12128)
DAILY VALUES
STATE 17 ILLINOIS

ITE-ID: 17-119-1015 POC: 1
OUNTY (119): MADISON CO
ITY (00000): NOT IN A CITY
ITE ADDRESS: CHEMETCO SITE 4-SE
UPPORT AGENCY (029): CHEMETCO
ITE COMMENTS: CHEMETCO LEAD NETWORK
ONITOR COMMENTS:
EPORTING ORGANIZATION (029): CHEMETCO
ONITOR TYPE (4): INDUSTRIAL DATA
OLLECTION AND ANALYSIS METHOD (092): HI-VOL ATOMIC ABSORPTION

AQCR (070): METROPOLITAN ST. LOUIS
URBAN AREA (7040): ST. LOUIS, MO-IL
LAND USE (3): INDUSTRIAL
LOCATION-SETTING (3): RURAL
MONITORING OBJECTIVE (1): MAXIMUM CONCENTRATION

LATITUDE: 38:47:31 N
LONGITUDE: 090:05:44 W
UTM ZONE: 15
UTM-NORTHING: 4297470
UTM-EASTING: 00752268
ELEVATION-MSL: 00125 M
UNITS (001): UG/CU MET
PROBE HEIGHT: 2 M

		JAN 1992	FEB 1992	MAR 1992	APR 1992	MAY 1992	JUN 1992	JUL 1992	AUG 1992	SEP 1992	OCT 1992	NOV 1992	DEC 1992
	1	W	S	S	W	F	M	W	S	T	T	S	T
	2	T	S	M	T	S	T	T	S	W	F	.02 M	.06 W
	3	F	M	T	F	S	W	F	M	.85 T	.16 S	T	T
	4	S	T	W	S	M	T	S	.97 T	F	S	W	F
D	5	S	W	T	S	T	F	S	W	S	M	T	S
	6	M	T	F	M	W	S	M	T	S	T	F	S
A	7	T	F	S	T	T	S	T	F	M	W	S	M
	8	W	S	S	W	F	M	W	S	T	T	.09 S	.10 T
Y	9	T	S	M	T	S	T	T	S	.14 W	.02 F	M	W
	10	F	M	T	F	S	W	F	.61 M	T	S	T	T
	11	S	T	W	S	M	T	S	T	F	S	W	F
O	12	S	W	T	S	T	F	S	W	S	M	T	S
	13	M	T	F	M	W	S	M	T	S	T	F	S
F	14	T	F	S	T	T	S	T	F	M	W	S	.13 M
	15	W	S	S	W	F	M	W	S	T	.22 T	S	T
	16	T	S	M	T	S	T	T	.18 S	W	F	M	W
M	17	F	M	T	F	S	W	.15 F	M	T	S	T	T
	18	S	T	W	S	M	T	S	T	F	S	W	F
O	19	S	W	T	S	T	F	S	W	S	M	T	S
	20	M	T	F	M	W	S	M	T	S	T	F	1.33 S
N	21	T	F	S	T	T	S	T	F	1.18 M	.05 W	S	M
	22	W	S	S	W	F	M	W	S	T	T	S	T
T	23	T	S	M	T	S	T	.15 T	S	W	F	M	W
	24	F	M	T	F	S	W	F	M	T	S	T	T
H	25	S	T	W	S	M	T	S	T	F	S	W	F
	26	S	W	T	S	T	F	S	W	S	M	T	.55 S
	27	M	T	F	M	W	S	M	T	.33 S	.83 T	F	S
	28	T	F	S	T	T	S	T	4.69 F	M	W	S	M
	29	W	S	S	W	F	M	.12 W	S	T	T	S	T
	30	T		M	T	S	T	T	S	W	F	M	W
	31	F		T		S		F	M		S		T
UMBER										11			12
AXIMUM										4.69			1.33
RITHMETIC MEAN										.85			.30

OTAL SAMPLES = 23

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SITE MONITOR STATUS REPORT

REGION 05 STATE 17 ILLINOIS

CURRENT VALUES FOR SITE 17-119-1012

COUNTY	119
CITY	00000
ADDRESS	SITE 1 - N, CHEMETCO
DISTANCE CITY	
COMPASS SECTOR	
LONGITUDE	90:05:57 W
LATITUDE	38:47:57 N
UTM ZONE	15
UTM EASTING	751915
UTM NORTHING	4298318
MSA	7040
AQCR	070
URBAN AREA	7040
ELEVATION MSL	131
LAND USE	3
LOCATION-SETTING	3
SUPPORT AGENCY	029
HQ EVAL DATE	/ /
RG EVAL DATE	/ /

TANGENT STREET NUM	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TYPE ROAD									
TRAFFIC FLOW	0	0	0	0	0	0	0	0	0

PARAMETER	12128
POC	1
MONITOR TYPE	4
MON TYPE EFF DATE	1991/04/06
ACTION TAKEN	
COLLECTING LAB	029
ANALYZING LAB	029
REPORT ORGANIZATION	029
REPORT ORG. EFF. DATE	1991/04/06
DOMINANT SOURCE	1
MEASUREMENT SCALE	2
PROBE HEIGHT	2
SITING CRITERIA	Y
SITING CRITERIA DATE	1991/04
REF METHOD	Y
REF METHOD DATE	1991/04
DATE SAMPLING BEGAN	1991/04/06
DATE SAMPLING ENDED	/ /
AUDIT DATE	/ /
MONITORING OBJ	1

STREET NUMBER	(1)	(2)	(3)
DISTANCE ROAD	0	0	0

END OF VALUES FOR THIS MONITOR

REGION 05 STATE 17 ILLINOIS

CURRENT VALUES FOR SITE 17-119-1013

COUNTY	119
CITY	00000
ADDRESS	SITE 2 - E, CHEMETCO
DISTANCE CITY	
COMPASS SECTOR	
LONGITUDE	90:05:34 W
LATITUDE	38:47:43 N
UTM ZONE	15
UTM EASTING	752506
UTM NORTHING	4297892
MSA	7040
AQCR	070
URBAN AREA	7040
ELEVATION MSL	131
LAND USE	3
LOCATION-SETTING	3
SUPPORT AGENCY	029
HQ EVAL DATE	/ /
RG EVAL DATE	/ /

TANGENT STREET NUM	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TYPE ROAD									
TRAFFIC FLOW	0	0	0	0	0	0	0	0	0

PARAMETER	12128
POC	1
MONITOR TYPE	4
MON TYPE EFF DATE	1991/04/06
ACTION TAKEN	
COLLECTING LAB	029
ANALYZING LAB	029
REPORT ORGANIZATION	029
REPORT ORG. EFF. DATE	1991/04/06
DOMINANT SOURCE	1
MEASUREMENT SCALE	2
PROBE HEIGHT	2
SITING CRITERIA	Y
SITING CRITERIA DATE	1991/04
REF METHOD	Y
REF METHOD DATE	1991/04
DATE SAMPLING BEGAN	1991/04/06
DATE SAMPLING ENDED	/ /
AUDIT DATE	/ /
MONITORING OBJ	1

STREET NUMBER	(1)	(2)	(3)
DISTANCE ROAD	0	0	0

END OF VALUES FOR THIS MONITOR

REGION 05 STATE 17 ILLINOIS

CURRENT VALUES FOR SITE 17-119-1014

COUNTY	119
CITY	00000
ADDRESS	SITE 3 - S, CHEMETCO
DISTANCE CITY	
COMPASS SECTOR	
LONGITUDE	90:05:50 W
LATITUDE	38:47:43 N
UTM ZONE	15
UTM EASTING	752104
UTM NORTHING	4297873
MSA	7040
AQCR	070
URBAN AREA	7040
ELEVATION MSL	131
LAND USE	3
LOCATION-SETTING	3
SUPPORT AGENCY	029
HQ EVAL DATE	/ /
RG EVAL DATE	/ /

TANGENT STREET NUM	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TYPE ROAD									
TRAFFIC FLOW	0	0	0	0	0	0	0	0	0

PARAMETER	12128
POC	1
MONITOR TYPE	4
MON TYPE EFF DATE	1991/04/06
ACTION TAKEN	
COLLECTING LAB	029
ANALYZING LAB	029
REPORT ORGANIZATION	029
REPORT ORG. EFF. DATE	1991/04/06
DOMINANT SOURCE	1
MEASUREMENT SCALE	2
PROBE HEIGHT	2
SITING CRITERIA	Y
SITING CRITERIA DATE	1991/04
REF METHOD	Y
REF METHOD DATE	1991/04
DATE SAMPLING BEGAN	1991/04/06
DATE SAMPLING ENDED	1992/06/30
AUDIT DATE	/ /
MONITORING OBJ	1

STREET NUMBER	(1)	(2)	(3)
DISTANCE ROAD	0	0	0

END OF VALUES FOR THIS MONITOR

REGION 05 STATE 17 ILLINOIS

CURRENT VALUES FOR SITE 17-119-1015

COUNTY	119
CITY	00000
ADDRESS	CHEMETCO SITE 4-SE
DISTANCE CITY	
COMPASS SECTOR	
LONGITUDE	90:05:44 W
LATITUDE	38:47:31 N
UTM ZONE	15
UTM EASTING	752268
UTM NORTHING	4297470
MSA	7040
AQCR	070
URBAN AREA	7040
ELEVATION MSL	125
LAND USE	3
LOCATION-SETTING	3
SUPPORT AGENCY	029
HQ EVAL DATE	/ /
RG EVAL DATE	/ /

TANGENT STREET NUM	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TYPE ROAD									
TRAFFIC FLOW	0	0	0	0	0	0	0	0	0

PARAMETER	12128
POC	1
MONITOR TYPE	4
MON TYPE EFF DATE	1992/07/01
ACTION TAKEN	
COLLECTING LAB	029
ANALYZING LAB	029
REPORT ORGANIZATION	029
REPORT ORG. EFF. DATE	1992/07/01
DOMINANT SOURCE	1
MEASUREMENT SCALE	2
PROBE HEIGHT	2
SITING CRITERIA	Y
SITING CRITERIA DATE	1992/07
REF METHOD	Y
REF METHOD DATE	1992/07
DATE SAMPLING BEGAN	1992/07/01
DATE SAMPLING ENDED	/ /
AUDIT DATE	/ /
MONITORING OBJ	1

STREET NUMBER	(1)	(2)	(3)
DISTANCE ROAD	0	0	0

END OF VALUES FOR THIS MONITOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
AIR AND RADIATION DIVISION
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

ENFORCEMENT SENSITIVE FOIA EXEMPT
ATTORNEY - CLIENT PRIVILEGE

DATE: AUG 0 3 1992

SUBJECT: Ambient Air Status of Lead Monitors near Chemetco

FROM: Rebecca H. Calby, Regional Meteorologist RHCalby
Regulation Development Branch (5AR-18J)

TO: Monica Smyth, Attorney
Office of Regional Counsel (5AE-17J)

At the request of the Enforcement Section, Regulation Development Branch, I reviewed the air quality monitoring sites near the Chemetco plant near Hartford, Illinois. The purpose of the review was to ascertain whether or not the monitors were sited in ambient air. The ambient air issue is significant because the National Ambient Air Quality Standards (NAAQS) apply only in ambient air. The national policy concerning ambient air is discussed below.

Under the authority of the Clean Air Act, the United States Environmental Protection Agency (USEPA) promulgated National primary and secondary ambient air quality standards for lead (40 Code of Federal Regulations (CFR) Part 50.12). These air quality standards define levels of air quality which the Administrator judges are necessary to protect public health and welfare and apply to the ambient air. 40 CFR Part 50.1 (e) defines ambient air as ". . . that portion of the atmosphere, external to buildings, to which the general public has access." A letter dated December 19, 1980, from Douglas Costle, then Administrator of the USEPA, to Senator Jennings Randolph, clarified this definition by stating that the exemption from ambient air and, thus, the exemption from the NAAQS, "is available only for the atmosphere over land owned or controlled by the source and to which public access is precluded by a fence or other physical barriers." The codified definition plus the 1980 clarification constitute the USEPA policy on ambient air.

The State of Illinois defines ambient air as "that portion of the atmosphere external to buildings comprising emission sources." This definition is found in the State of Illinois Rules and Regulations, Title 35: Environmental Protection, Subtitle B: Air Pollution, Chapter I, Section 201.102. This section of the Illinois rule is part of the federally approved State Implementation Plan (SIP). While the Illinois definition of ambient air reads more stringent than the Federal definition, I was involved with a SIP revision for Peoria, Illinois, in which the Illinois Environmental Protection Agency (IEPA) argued that a portion of a source's property which was not fenced should have been excluded from ambient air due to inaccessible terrain. IEPA routinely follows the Federal definition by not placing receptors on fenced

plant property in its modeling for attainment. Relying on the Illinois definition of ambient air could easily be considered arbitrary because USEPA has allowed IEPA to exclude fenced plant property from ambient air in several recent SIP revisions.

The Office of Air Quality Planning and Standards has provided guidance on the interpretation of the ambient air policy for the purpose of siting receptors for modeling. Following USEPA policy, for an exemption from ambient air, public access must have been precluded by a fence or physical barrier such as a river. Posting of no trespassing signs, gates across roadways, and/or railroad tracks were not found to be adequate physical barriers.

Three particulate monitors are located near the Chemetco facility for the purpose of measuring lead concentrations in the air. In the attached figure (Figure 1-1), the three monitor locations are indicated by small solid circles and are labeled as Location N3, Location O3, and Location OE. The fenced property line is indicated by the heavy dashed line. This fenceline was confirmed by Kendall Magnuson during a site visit and photographs document the presence of the fence and the monitors. I considered Figure 1-1, the photographs of the monitors, and conversations with Mr. Magnuson in the evaluation of the site locations with respect to ambient air.

The monitor at Location O3 is sited to the east of Chemetco in an open field. This monitor is accessible to the public and represents ambient air. A gate across the secondary access road which runs east and west just south of the facility would not preclude public access. A person could easily walk to the monitor.

Similarly, the monitor at Location OE is outside the fenced plant property and represents ambient air. This monitor is located in an open field across the secondary road to the south of Chemetco.

The monitor at Location N3 is sited to the northeast of the facility on plant property. The monitor is within the fenceline which extends around the facility except at the entrance to the facility and parking lot. Because the facility is not entirely fenced, one could argue that all plant property is ambient air. However, a guard station is located at the plant entrance and a person would have to walk through the facility to reach the location of the monitor. Thus, the issue as to whether or not Location N3 represents ambient air is open for interpretation. In my opinion, Chemetco could successfully argue that public access is precluded by the combination of the fence, the guard station, and the various structures on the site. While this monitor site may not represent ambient air, please note that the monitor is within approximately 10 feet from the fencelines to the north and to the east. It is reasonable to assume that concentrations measured at this monitor are highly indicative of lead concentrations in the nearby ambient air.

Attachment

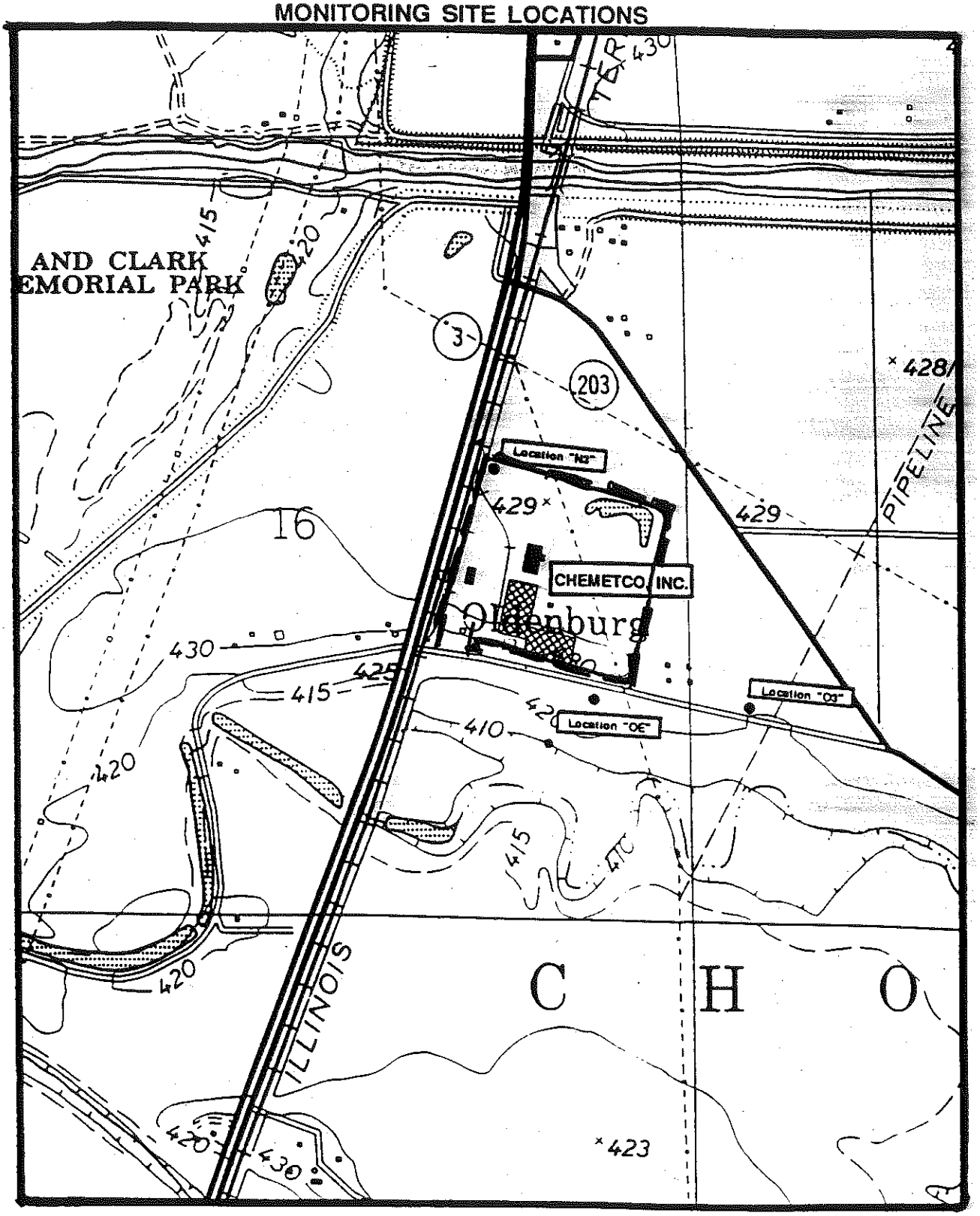
standard bcc's: official file copy w/attachments Calby

other bcc's: S. Rothblatt w/attachment
K. Magnuson w/attachment
D. Sipe w/attachment

ARD:RDB:8/03/92 DISKETTE: Calby#1 AMBIENT.AIR

Attachment

FIGURE 1-1
MONITORING SITE LOCATIONS



Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

217-785-1743

September 25, 1991

Lucille Penson
U.S. Environmental Protection
Agency - Region V
Air Compliance Branch
230 S. Dearborn
Chicago, Illinois 60604

Dear Lucille:

Pursuant to the recent conference call, please find attached a copy of a letter summarizing the lead readings for Chemetco, Inc.

Please also find attached excerpts from the quarterly report submitted by Chemetco, Inc., documenting monitoring reports, site locations, and quarterly averages.

If you have any questions, please contact myself or Bob Hutton, of Ambient Air Monitoring, at 217-782-7326.

Sincerely,

Otto J. Klein, Jr., Coordinator
Asbestos Demolition/Renovation
Field Operations Section
Division of Air Pollution Control

Attachments

cc: Bob Hutton

OJK/js

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

MEMORANDUM

DATE: September 25, 1991

TO: DAPC Central File

FROM: Bob Hutton for REH

SUBJECT: Chemetco
P.O. Box 187
Alton, Illinois 62002

I.D. Number: 119801AAC

As required by an operating permit issued by the Illinois EPA, Chemetco, Inc. is required to conduct a program to determine the lead concentrations in ambient air around its facility in rural Madison County, Illinois. During the first calendar quarter of this activity (April - June, 1991) the monitoring station, located north and just inside of the fenceline of the facility, recorded a quarterly arithmetic average for lead of 5.55 ug/m^3, well above the National Ambient Air Quality Standard of 1.5 ug/m^3. The other two stations in the monitoring system recorded lead values of 1.07 ug/m^3 and 0.84 ug/m^3, both within the standard, but significantly greater that ambient lead concentrations found throughout Illinois during recent years.

Attached are copies of the pages from chemetco's quarterly report to the Illinois EPA, which describes the monitor locations and list of the lead concentrations for each sample collected.

REH/js

Chemetco
FIRST IN PEOPLE – QUALITY – SERVICE
P.O. BOX 187 • ALTON, ILLINOIS 62002

Mailed Certified No. P 787 181 032

September 12, 1991

Mr. Terry Sweitzer, Manager
Illinois Environmental Protection Agency
Division of Air Pollution Control
P. O. Box 19276
Springfield, Illinois 62794-9276

RE: Ambient Air Monitoring Quaterly Report
Chemetco, Inc. -- Madison County
I.D. No. 119801AAC

Dear Mr. Sweitzer,

Following please find a quarterly report for ambient air monitoring conducted at the Chemetco, Inc. facility for the second quarter of 1991.

I have also sent a copy to Jim Henry at the Collinsville Field Office. If either you or Jim have any questions or require any further information, please do not hesitate to phone me at 618-254-4381, Ext. 219 or write me at the above letterhead address.

Sincerely,

Michelle Reznack

Michelle Reznack
Environmental Manager

Enclosure
cc: Jim Henry, IEPA Collinsville Field Office
Bruce Hendrickson, Chemetco Plant Manager
file

1.0 INTRODUCTION

This document presents the summary of the quarterly ambient air monitoring performed at the Chemetco, Inc. facility in Madison County. While these are the first quarterly reports submitted by Chemetco, they cover the second annual quarter of the year. That is, monitoring did not begin until April, 1991, and these results cover April through June.

1.1 Monitoring Description

Ambient air monitoring began on April 6, 1991 and sampling for total suspended particulates and lead in the particulate was performed on a once every sixth day basis. Every day, a weather log has been maintained documenting wind speed, wind direction, wind direction standard deviation (sigma), temperature, relative humidity and precipitation.

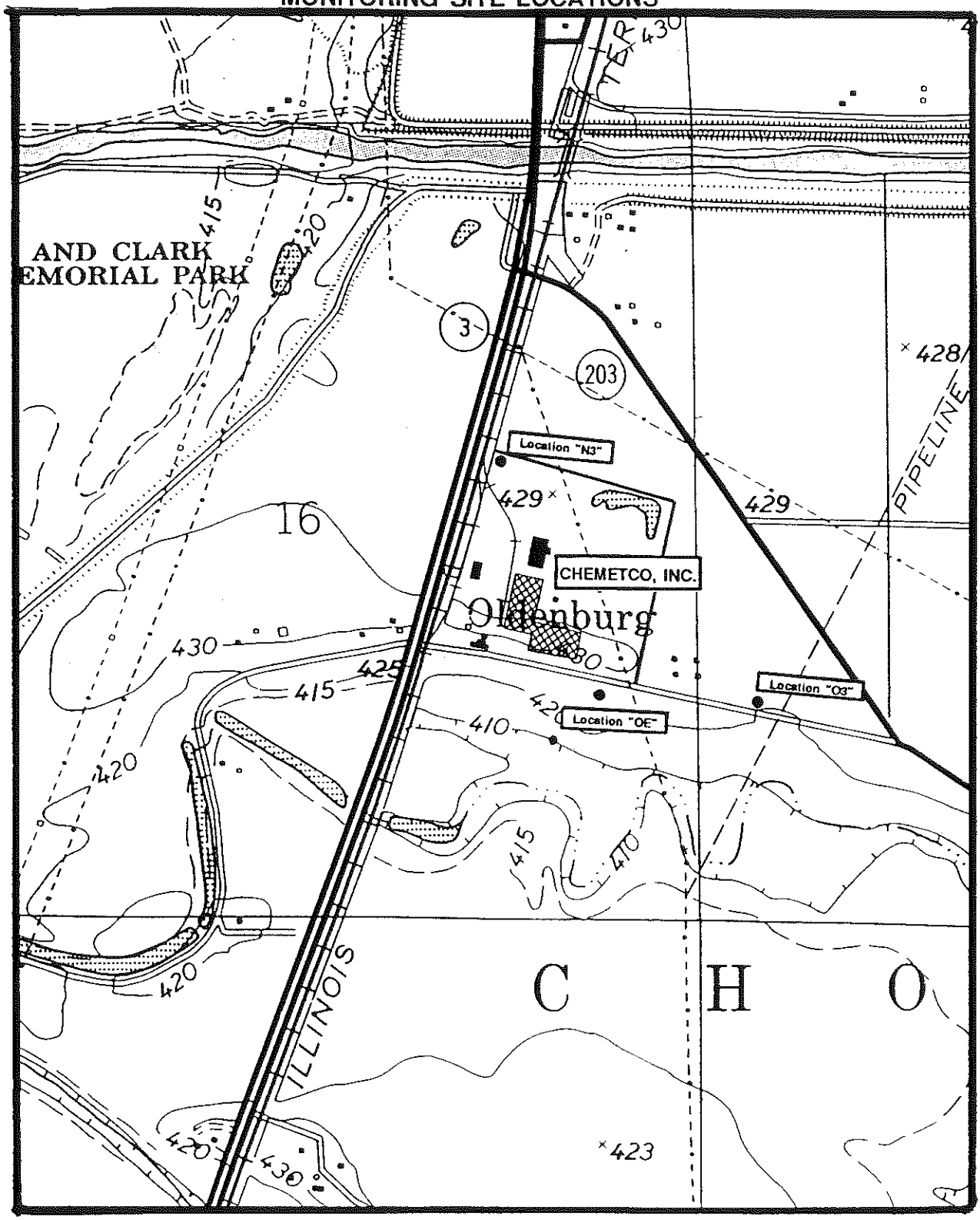
The location of the monitoring sites was based on a modeling report done by Versar, Inc. One of the original sites chosen by Chemetco was moved from the northeast corner outside the fenceline to the northwest corner just inside the fenceline. This change was made for several reasons: 1) the only property Chemetco had access to outside the fenceline was further east than areas picked by Versar; 2) there was no power to that section; and 3) it is possible that any foundry emissions to that site would have been partially blocked by the pile of slag on the property. The new location and the other two proposed locations were approved by Jim Henry on a site visit for that purpose. Figure 1.1 depicts the approved monitoring sites, one of which, N3, has two samplers located for the purpose of determining quality assurance.

Standard operating procedures followed for the filter conditioning, sampling, sampler operation, analyses, etc, are shown in Table 1.1. Complete copies of the SOP's were provided in the Ambient Air Monitoring Quality Assurance/Quality Control Plan.

1.2 Monitoring Report

The following pages contain the results of the second annual quarter monitoring. Section 2 contains an accounting of all the test dates and reasons for eliminating data from certain test dates. Section 3 contains the quarterly averages, the quality assurance data and meteorological data. The Appendices include copies of the Hi-Vol Data Sheets, the Filter Conditioning Logsheets with total suspended particulate calculation, the laboratory analysis, results of the laboratory's USEPA quality assurance samples, and the calculation worksheets.

FIGURE 1-1
MONITORING SITE LOCATIONS



3.2 Sampler Quarterly Averages

The simple quarterly average for each set of data from a particular sampler are calculated in the following tables, 3.1 through 3.4.

TABLE 3.1 - Sampler Location N3

DATE	FILTER NO.	LEAD (ug/m³)	TSP* (ug/m³)
04/06/91	8176024	9.11	161.66
04/12/91	8176026	1.44	128.31
04/18/91	8176032	1.44	53.75
04/24/91	8176035	1.06	94.33
04/30/91	8176041	7.60	142.56
05/06/91	8176048	0.49	43.58
05/12/91	invalid		
05/18/91	8176058	1.08	65.45
05/24/91	8176066	25.23	400.09
05/30/91	8176068	18.09	319.49
06/05/91	8176074	0.34	58.91
06/11/91	8176080	1.10	98.54
06/17/91	invalid		
06/23/91	8176092	0.35	53.64
06/29/91	8176098	4.91	127.64
	Average Lead:	5.55	Average Particulate: 134.46

TABLE 3.2 - Sampler Location OE

DATE	FILTER NO.	LEAD (ug/m³)	TSP* (ug/m³)
04/06/91	invalid		
04/12/91	8176027	0.02	21.25
04/18/91	8176031	0.38	84.12
04/24/91	8176036	3.99	67.74
04/30/91	8176042	7.04	84.81
05/06/91	8176049	1.05	50.94
05/12/91	8176052	0.05	32.51
05/18/91	8176059	0.40	64.16
05/24/91	8176061	0.03	38.20
05/30/91	8176067	0.15	42.79
06/05/91	8176075	0.18	54.31
06/11/91	8176082	0.04	63.24
06/17/91	8176087	1.11	69.27
06/23/91	8176095	0.15	47.62
06/29/91	8176099	0.52	63.01
	Average Lead:	1.07	Average Particulate: 55.99

TABLE 3.3 - Sampler Location O3

DATE	FILTER NO.	LEAD (ug/m³)	TSP* (ug/m³)
04/06/91	invalid		
04/12/91	8176028	0.50	92.43
04/18/91	8176030	0.18	68.68
04/24/91	8176037	3.09	56.33
04/30/91	8176044	0.00	38.63
05/06/91	8176045	3.27	42.95
05/12/91	8176053	0.05	34.88
05/18/91	invalid		
05/24/91	8176062	1.67	266.48
05/30/91	8176071	1.36	182.36
06/05/91	8176073	0.12	57.95
06/11/91	8176079	0.15	66.04
06/17/91	8176083	0.22	37.09
06/23/91	8176093	0.08	47.78
06/29/91	8176097	0.24	55.80
	Average Lead:	0.84	Average Particulate: 80.56

TABLE 3.4 - Filter Blank

DATE	FILTER NO.	LEAD (ug/filter)	TSP* (ug/filter
04/06/91	none		
04/12/91	none		
04/18/91	8176029	4	0
04/24/91	8176038	52	-5000
04/30/91	8176040	4	-4000
05/06/91	8176046	6	-2000
05/12/91	8176051	94	-1000
05/18/91	8176057	6	2000
05/24/91	8176063	6	-1000
05/30/91	8176069	6	-4000
06/05/91	8176072	6	-4000
06/11/91	8176078	6	-4000
06/17/91	8176090	99	-1000
06/23/91	8176091	6	0
06/29/91	8176096	6	0
	Average Lead:	23.15	Average Particulate: -1846

*TSP - Total Suspended Particulate